



Faculty Working Papers

MUNICIPAL GOVERNMENT OPERATION OF RAILWAY LINES

John F. Due

#206

Transportation Research Paper #6

College of Commerce and Business Administration
University of Illinois at Urbana-Champaign



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John F. Die Professor of Economics University of Illinois

One alternative to abandonment of light traffic railway lines is purchase and operation of the lines by local governments. These may be existing governmental units, such as cities or counties, or they may be newly constituted local government districts or authorities, now common in the operation of urban passenger transport. The purpose of this paper is to analyze the experience in the past with municipal operation of railways—as distinguished from stree* railways or rapid transit systems. The study is concerned only with lines actually operated independently by municipal governments or corporations controlled by them, and not with lines merely owned by municipal governments, the principal example of which is the Cincinnati, New Orleans and Texas Pacific, ewood by the city of Cincinnati but operated under lease by the Southeth Railway and its predecessors. There are two principal municipal sines, the Baifast and the served Principal Railway. The third lone, that of the

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Municipality of East Troy, is a much smaller operation. There have been other minor examples in the past but these are of no overall significance.

THE BELFAST AND MOOSEHEAD LAKE RAILROAD COMPANY *

on the Maine Central's main line from Portland to Bangor, to the city of Belfast, in the state of Maine. There are three other towns on the line, Brooks, Thorndike, and Unity, with populations of 400, 110, and 300 respectively, and five other settlements, all with populations under 100.

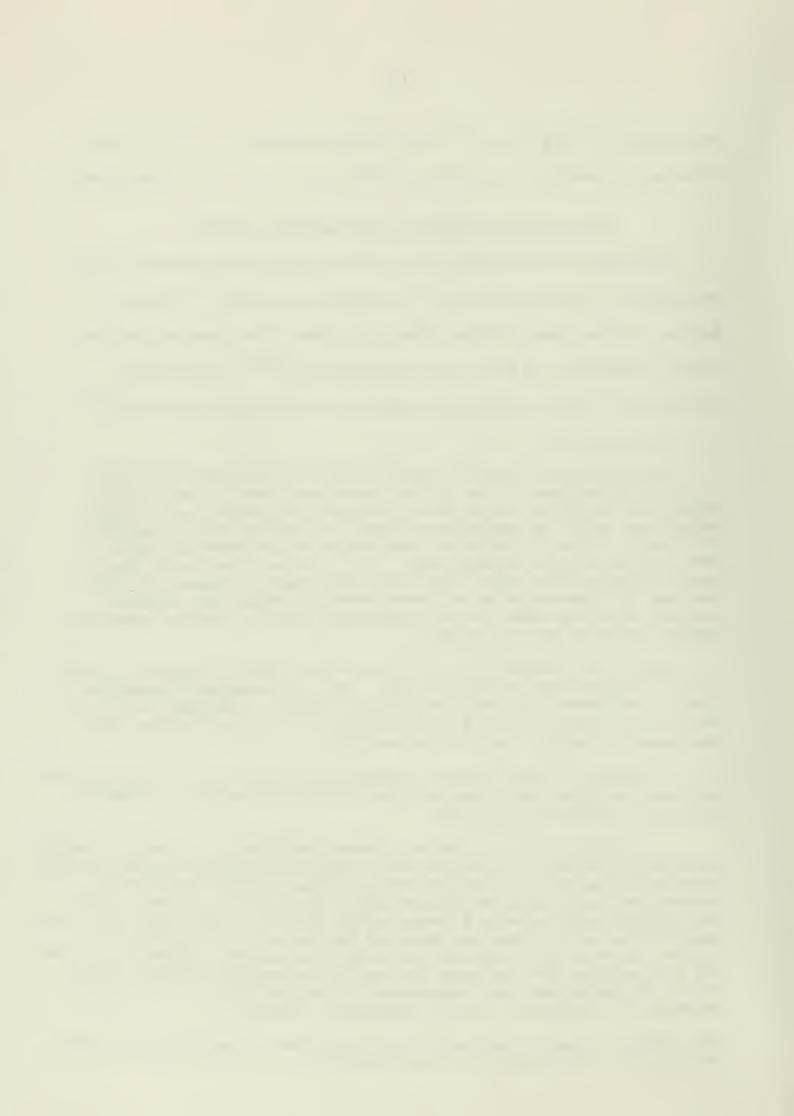
The city of Klamath Falls, in south central Oregon, financed a 20-mile line of railroad from the city to Dairy. The city eventually deeded the line to the Oregon, California and Eastern in 1919 in exchange for OC & E bonds; in 1919, when the OC & E was purchased by the Great Northern and the Southern Pacific, the city was paid off.

Neither of these ventures involved much actual city participation in railroad operation. Both involved lines built out from the city, both of which were served by major lines.

In 1928 the city of Lakeland (formerly Milltown), in southern Georgia, acquired the Milltown Airline Railroad, connecting Lakeland with the Atlantic Coast line, 9 miles away, when the Milltown line received permission to abandon the line. The line had been built around the turn of the century as a logging road, becoming a common carrier in 1903. The closing down of the lumber mills as the timber was exhausted and the decline of agriculture in the late twenties in the area led to deficits and the abandonment petition. The city operated the line under the name of the Lakeland Railway as part of the city government until abandonment in the late 1950's. The traffic potential was inadequate to avoid substantial deficits.

Two were in the state of Oregon, whose laws facilitated municipal operation of railroads. The city of Grants Pass aided in the financing of the California and Oregon Coast, projected from Grants Pass, in the Rogue River valley in southwestern Oregon, to Crescent City in northern California to give the valley a direct outlet to the ocean and bring down Southern Pacific freight rates. Only 15 miles, from Grants Pass to Waters Creek, was ever built. The city issued bonds to finance the line and came into possession of the assets when the company went bankrupt. Attempts to revise operation were unsuccessful and the line was abandoned. Traffic potential was too limited.

^{*}The author is greatly indebted to Mr. Wilfred Hall, Manager of the Belfast and Moosehead Lake Railroad, for his assistance.



The populations of Belfast and of Waldo county (which is also served by the Bangor and Accostock's Searsport lin-) over the last century are shown in Table I.

When the Maine Central built north to Bangor, it missed delfast, for geographic reasons, by over 30 miles. After attempts to ger a connecting line built by private enterprise, the city was instrumental in the formation and financing of the Belfast and Moosehead Lake Railway Company, incorporated in 1867. Construction began in 1868 and was completed in 1870. The line was built cheaply, with 56 pound rail, at a cost of 525,900 a mile. The company operated independently for less than a year and then leased the road to the Maine Central. It was operated for the next 55 years as an integral part of the Maine Central, which paid the company (and thus it affect the city) \$36,000 a year.

In 1926 the Maine Central terminated the lease, on the grounds that it was not earning enough to pay the rental on the line—an argument that was borne out by the earnings statement the following year. The company then residued operation of the line, acquiring three old danchester steam locomotives from the Bangor and Arcostook and three ancient mooden coaches from the Philadelphia and Reading and the Atlantic City Railroad. Independent operation has continued since 1926.

As shown on Figure 1, the line provides the city of Belfast with its only rail outlet; the nearest railroad line is the Bangor and Aroostook's Searsport line, terminating about seven miles from Belfast. This line was built later than the Belfast line; if it had been extended to Belfast, the route would have been substantially longer to Portland and Boston.

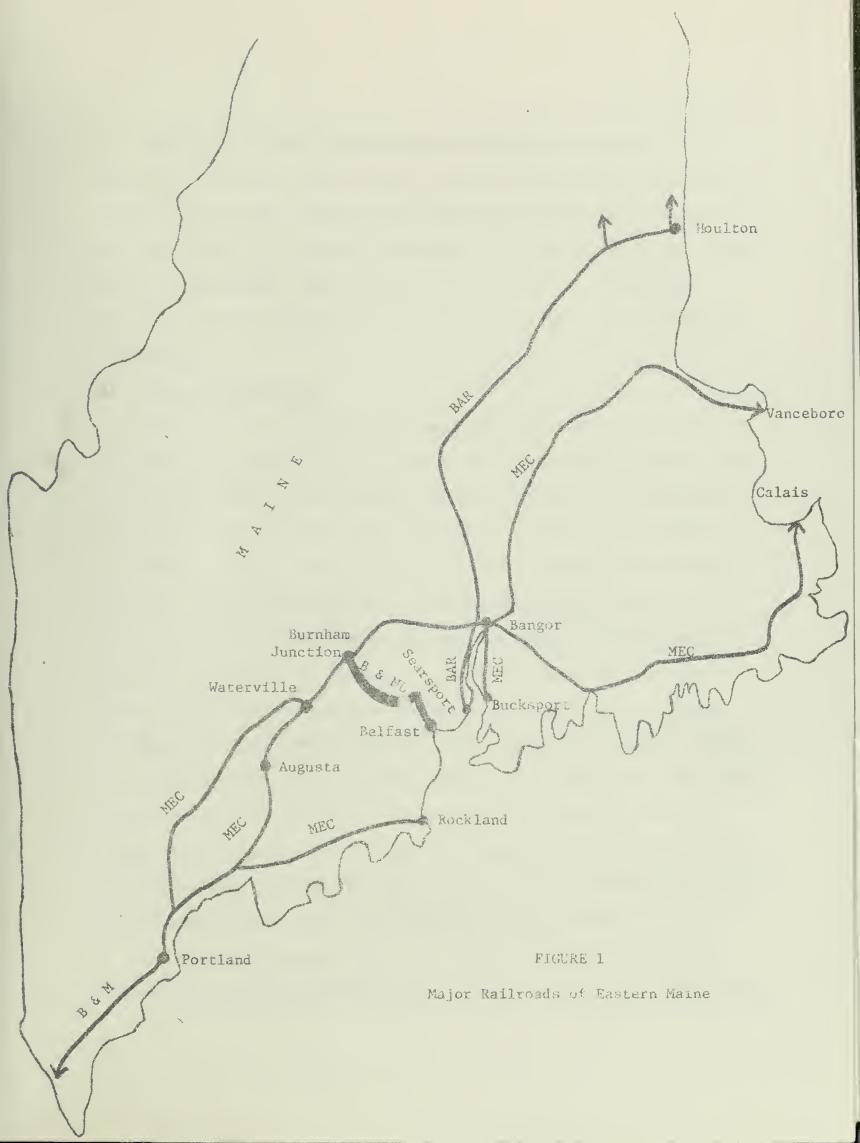


TALLE I
POPULATION, BELFAST AND WALDO COUNTY, MAINE, 1850-1970

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	Pop	ulation
Year	Belfast	Waldo County
1.850	5,051	47,230
1860	5,520	38,447
1870	5,278	34,522
1880	5,308	32,463
1890	5,294	27,759
1900	4,615	24,185
1910	4,618	23,383
1920	5,083	21,328
1930	4,993	20,286
1940	5,540	21,159
1950	5,960	21,687
1960	6,140	22,632
1970	5,957	23,328

SOURCE: U. S. Census Volumes







The city of Belfast owns--and has owned from the beginning--3,004 shares of the common stock, the town of Brooks the other 200 common shares, of the total of 3,804. Of the total preferred stock of 2,677 shares, the city owns 1,396 or 52 percent; the remaining is owned partly by the railway, partly by individuals, some of whom have acquired it as a curiosity. Thus the city owns 77 percent of the total stock. There is no funded debt outstanding.

Revenue and Earnings

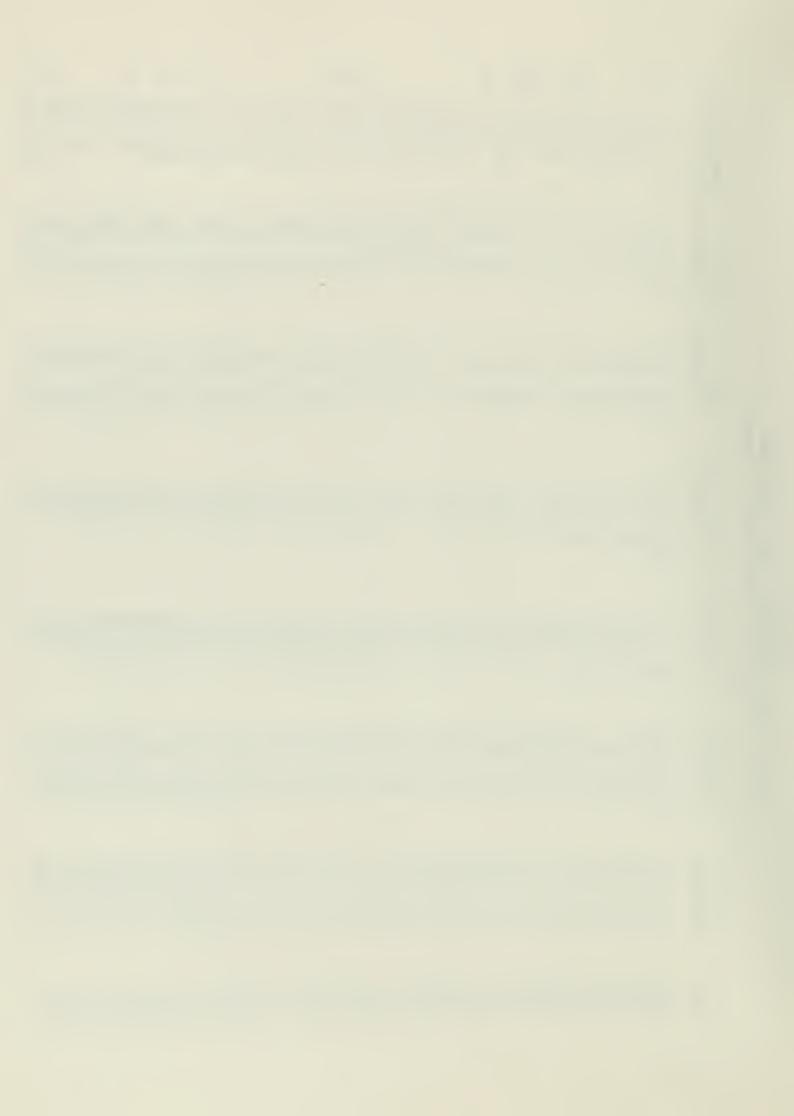
Table II shows the revenues and expenses since 1926. In 47 years of independent operation, the road has never shown an operating deficit, even in the worst years of the depression of the thirties, but it has shown a net deficit in 21 of the 47 years (nine of these being in the decade of the 1960s). Over the period, the cumulative net earnings have been about \$150,000. The earnings position fluctuates substantially from year to year, not so much because revenue changes, but because of variations in maintenance expenditures. Essentially the cost to the city over this period is the return foregone on the capital sum that could be obtained by junking the line--perhaps \$300,000. The city's share would be perhaps \$15,000 annually at current interest rates. On the other hand, the salvage value has risen over the years. But the city is obviously willing to forego this amount in order to insure continued operation of the railroad. The best earnings year was 1971, with a net of almost \$100,000; the worst deficit year was 1967, with a net deficit of nearly \$42,000.

The trends in tonnage handled are likewise indicated in Table II.

Tonnage fell steadily from 1926 to 1939, roughly to half of the 1926 figure,

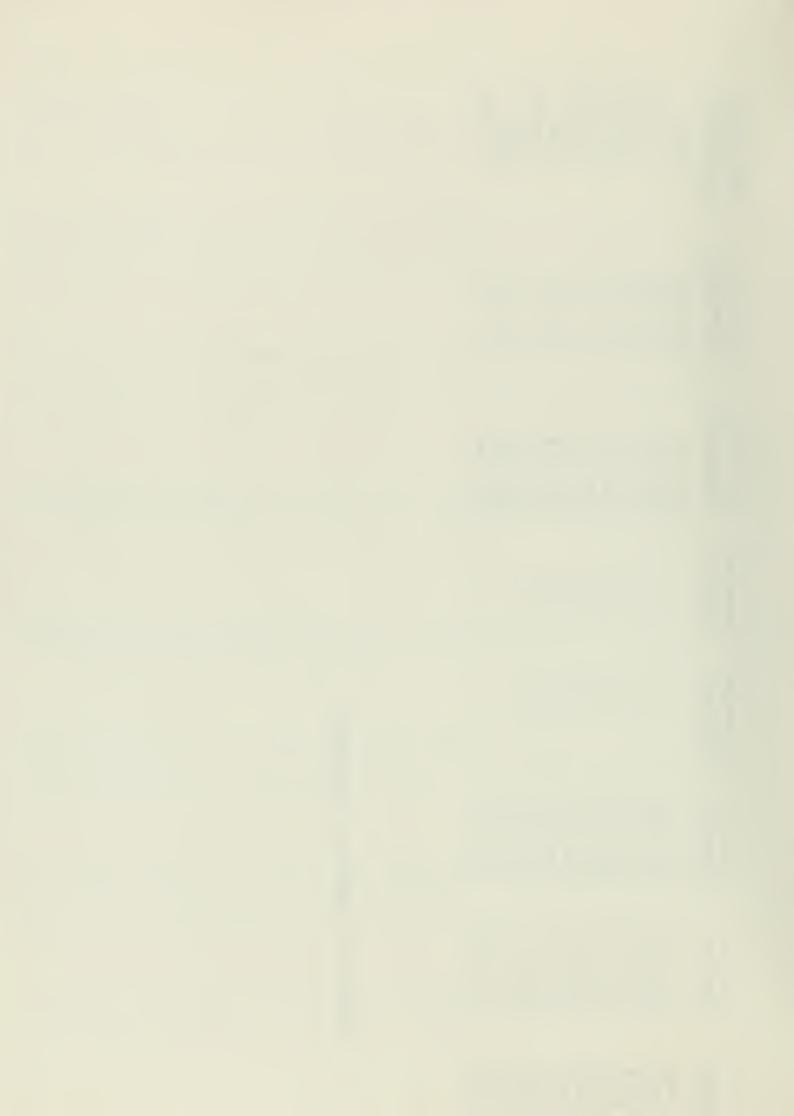


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BELFAST AND MOOSEHEAD LAKE RAILROAD Operating Statistics, 1926-73	Oper. Expenses	+	- G.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C.C	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 4 5	2-1	ນາເບ ທີ່ດີເ	85.00 100 100 100 100 100 100 100 100 100) 4 0) 0 4) 0 4	28,41	10°	80,08	35,70	20 C	000	07.79 07.43 08.63	20° 20° 20° 20° 20° 20° 20° 20° 20° 20°	73,81
	Oper. Revenues	\$158,772		- ල ල රිලිදුර්	8 8 8 8 8	0,000	100 C	00,53		50.04		2000 4000 4000	55°,30°,30°,30°,30°,30°,30°,30°,30°,30°,30	2007	44,72	44,700,000,000,000,000,000,000,000,000,0	96, 3	85,16
	Passenger Revenue	\$22.00 \$25.00 \$25.00 \$25.00 \$44.00 \$44.00 \$45.00 \$4	වූට් වූට්	180	0,0	500	x 2 0	360	1000	8%	100	4 rg	85	40	2016	4.0°-	300	(1)
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Net Income or Deficit	. 93	1,813(,963 (6	,897 (1,814(3,487(6,33	4,57	00 " 00 "	0,59	
Operating Expenses	80,60	98,09	89,66	180,665	94,16	42,24	50,45	56,86	12,42	30,07	78,28	27,04
Operating	39,13	39,23	38,92	211,269	70,96	47,73	02,43	25,81	79,15	02,41	49,85	30,20
Passenger Revenue	viewy gover depth	0 to	1	712	00	6	WY	-	\sim		gay sales gave	despt state digit
Passengers	Visio and disp		1	190	S	1	9		S		dest side turn	details durine allulop
Freight	36,14	34,94	33,51	206,726	86,22	31,24	78,80	95,83	37,30	29,87	43,49	74,16
Freight	40,23	34,46	36,59	130,774	31,37	48,32	80,59	83,62	90,27	14,23	10,64	29,92
YEAR	96	96	96	1962	96	9	9	96	07	201	6	50

Source: Data supplied by the nailway.



primarily as motor transport took over the LCL and merchandise traffic. Tonnage rose during the World War J' years to exceed the figure of 1926, and it reached a new high in 1951. Then came a continuous decline to a low in 1961 less than the 1926 ligare. Since that time there has been a strong upward trend, with an all time high reached in 1973, the tounage being twice that of 1926 and five times that of the low year, 1939. The high figure for tor mileage was 1970. 1974 tonnage is running ahead of 1973. The traffic patterns have changed substantially over the years. First, the LCL traffic and inbound carload traffic in manufactured goods was lost to motor transport and passenger traffic primarily to the private car. In 1926, for example, 42,171 passengers were carried, with a yield of \$28,868; by 1959 the figure had fallen to 1,775 or less than five a day. Passenger, mail, and express service ended in 1960 (the Maine Central eliminated all passenger service shortly thereafter, leaving the Delfast line without a passenger connection) and less than corlose service in 1964. Likewise there occurred a decline in outbound lumber and pulpwood traffic as the nature of the economy change. But the railroad had depended heavily upon passenger, LCL, and general merchandise traffic, all particularly vulnerable to the motor vehicle

The revival in traffic was a product of a major change in the area; the development of poultry production on a large scale in the last two decades. This has become the major economic activity of the area, and the feed and other supplies for the industry primarily come in by rail.

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The Present Traffic

As of 1973, about 90 percent content to the traffic relates to the poultry industry, primarily ingredients for poultry feed. Data are given in Table/III. The largest single item is corn; in 1973, 1,429 cars of corn were brought in, primarily in hopper cars from the midwest, or an average of six cars a work day. In total 2,797 cars relating to the poultry industry, averaging 11 cars a day, were handled. Most of this was feed ingredients, but 224 cars were of crates and packaging materials. The remaining inbound traffic consists primarily of lumber, much of it for a window factory, and coming primarily from the west coast, and scrap leather for reduction into fertilizer. Other inbound traffic is negligible—four cars of farm equipment, three of LP gas, two of pipe, etc.

Outbound, 513 cars were originated, over half being pulpwood, most of which goes to Rumford, Maine for paper production. Most of the remainder consists of tankage, a fertilizer made of old leather; plus 35 cars of sardines and a few cars of potatoes and pine lumber. Approximately 93 percent of the revenue comes from inbound shipments, 7 percent from outbound.

The total number of cars originated and terminated, 3,516, is far in excess of the number required for inclusion in the restructured northeast railroad system under the D. O. T. plan. The area is not subject to the plan since the Maine Central is not in bankruptcy.

Equipment

The line currently owns four diesels, identical General Electric Cooper-Bessemer 600 horsepower, 41,300 pounds tractive effort. The first

Plus 12 cars loaded and terminated on the line, mostly corn.



TABL LII

TRAFFIC STATISTICS, 1973, BELFAST AND MOOSEHEAD LAKE RAILWAY

Commodity	Cars	Revenue 000s
Inbound		
Corn	1,429	\$255
Other Poultry Feed Ingredients	1,156	150
Crates, boxes, egg case fillers	224	12
Lumber	50	4
Scrap Leather	103	7
Other	40	5
Total	3,003	434
Local, Total	12	Ţ
Outbound		
Pulpwood	324	19
Tankage	1.47	16
Sardines	35	4
Other	5	1
Total	513	40
Overall Total	3,520	\$476



two were acquired in 1946, at a cost of approximately \$53,000 each, to replace the old steam locomotives. In then fifty years old. A third was acquired in 1951, but the price had risen to \$73,000. In 1970 the fourth (built in 1948) was purchased second hand, for \$20,000 from the Montpelier and Barre. These engines have not been built for a number of years and parts are getting more difficult to obtain; the line is considering purchasing a fifth, from the Claremont and Concord, mainly for parts. One is kept at Thorndike, to continue to provide service on the western end of the line should a serious derailment tie up the eastern portion. The other three are kept in Belfast, where maintenance work is done. They cannot be operated in multiple; the line has not been willing to invest the money to convert for multiple operation.

As is typical with most Class II roads, the line owns no freight cars, although rack cars for pulpwood are leased from the United States Railway Leasing Company. Consideration has been given to purchasing cars, but the lack of capital and other complications have led to the decision not to do so. Since 90 percent of the traffic is inbound, the line has not been bothered seriously with car shortages, but has had some problems, partly because the Maine Central has only a few hundred freight cars of its own. The line owns two flat cars for its own use, and two cabooses, purchased second hand from the Maine Central in 1968 for about \$500 apiece.

The diesels are unfortunately getting old and need either to be replaced or completely rebuilt. One has already been sent away for rebuilding, at a cost of \$40,000, and the problem must be faced with the others.



The diesels and trainmen are equipped with walkie-talkie radios to permit better communication, with a relay station on a mountain near the middle of the line.

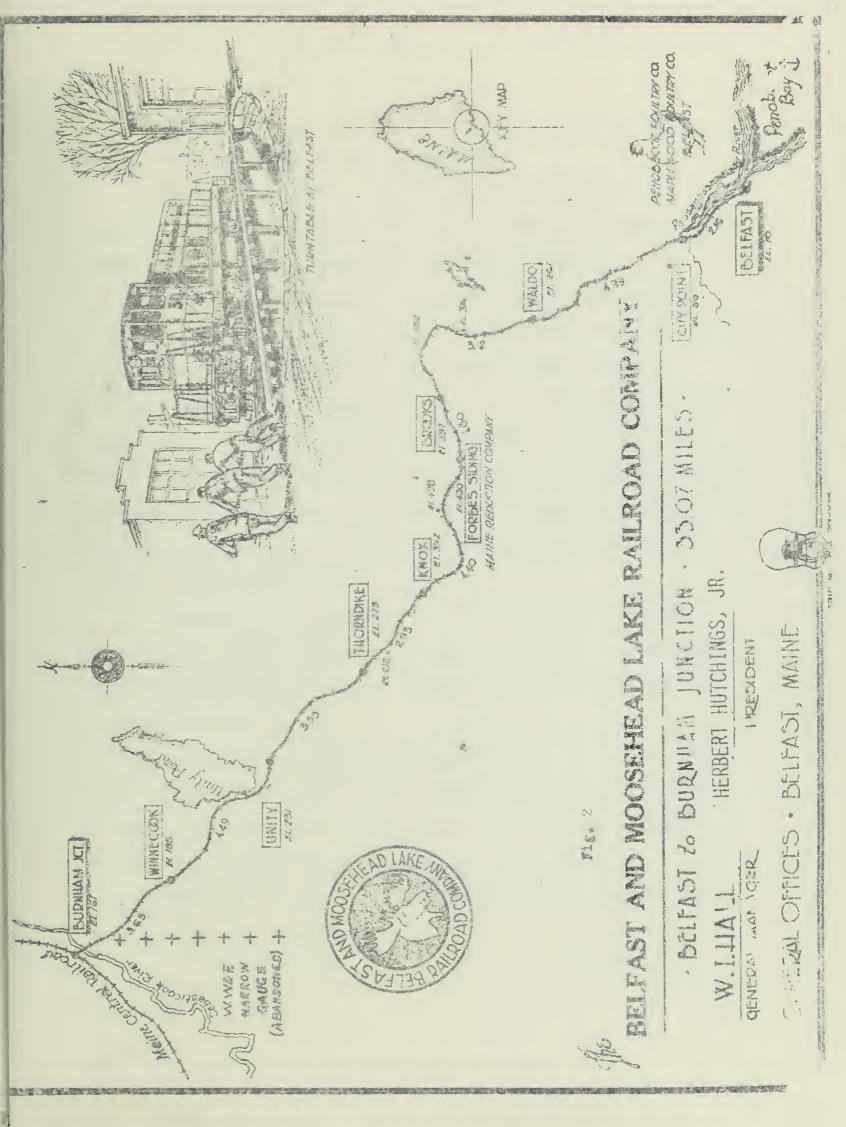
The Track

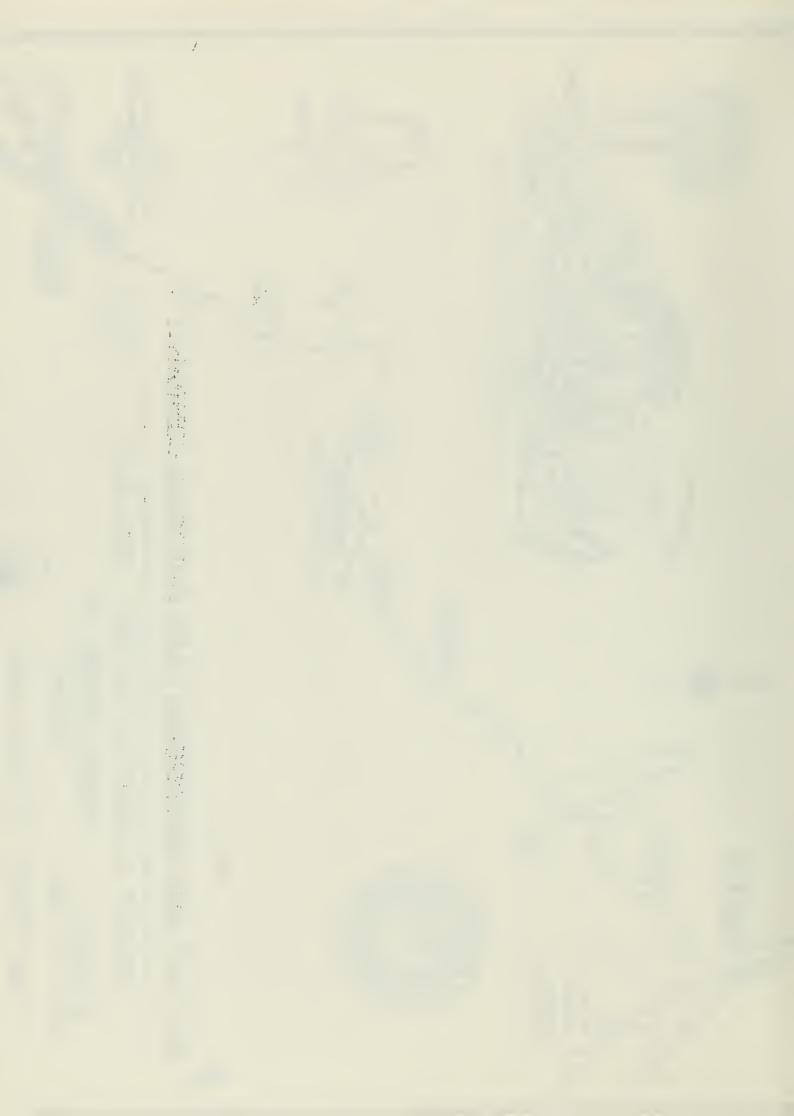
The line extends 33 miles southward from the connection with the Maine Central at Burnham Junction to the end of the track in Belfast. The line ascends from an elevation of 161 feet at Burnham to a summit west of Forbes siding, 498 feet, and then descends to 10 feet at Belfast. Figure 2 shows the line in some detail. The maximum grade is 2 percent; fortunately the traffic moves primarily eastward, and thus with a net descent. The curvature is substantial, with 98 curves on the line. This portion of Maine consists of wooded rolling but not steep hills, with occasional bogs and lakes. There are two peculiarities of construction. First, the rail joints are opposite rather than staggered; this reduces the tendency for heavy cars to rock, but increases the tie wear at the joints. Secondly, the rails are joined by the so-called Webber sleeve, which contains a piece of wood; it was designed to improve the passenger service ride. This sleeve will gradually be phased out.

Observation, plus the fact that there have been few derailments, suggests that the track on the whole is not in bad shape. But there are several inadequacies:

- 1. There are several boggy areas with inadequate draining.
- 2. There is an excessive number of defective ties and therefore rail alignment and surfacing are not retained adequately. Much of the track is not sufficiently firm.







- 3. Ballast, about 85 percent cirders, has been in place a long period of time and is not entirely matisfactory.
- 4. There are some defective rails (battered ends, split heads, fissures) that require replacing. The rail, primarily 75 pound rail laid around 1910, is not in bad snape, with only limited bending.
- 5. There is excessive superelevation of the outer rail on many curves because the track was designed for passenger train use. This results in excessive pounding of the inner rail by modern heavy freight cars.

The road now has a comprehensive plan to raise maintenance standards sharply over a three-year period, with the objective of meeting Class II Federal rail standards. New forms for recording track conditions have been developed. This program has been designed by the roadmaster, a former high school music teacher, who is highly enthusiastic about the maintenance program. The program involves:

a. Speeded up tie replacements for three years; then a program of replacement of 3,000 ties per year (roughly 100 per mile). The length of life of a processed hardwood lie is estimated to be 3° years. There are about 100,000 ties in total.

The procedure is to require each track foremen to go over his section early in the year, after having been notified of the number of ties he is to replace that year, marking the worst ties up to the number specified.

These are then replaced during the spring and summer months.

b. Shift has been made from cedar ties to hardwood processed ties. These cost currently \$13.50 each.



c. Rails that are defective will be removed. Newly acquired 85 and 90 pound rails will be used on the western portion, and good rail taken up in this section relaid to replace defective rails on the remainder.

Recently a number of 90 pound rails have been acquired from the Burlington Northern. Switches and other items will be improved and replaced where necessary. The bridges are steel and in good condition.

The road uses three track crews, with a foreman and five men on each; this is regarded as a necessary minimum.

While derailments have been few in recent years, the road has had a fair number over the years, some doing substantial damage to the cars. If the cars tip, it is necessary to obtain a crane from the Maine Central or from an outside contractor to right them. If the cars are damaged, they are turned over to the Maine Central for repairs; the MEC bills the line. The road carries insurance against the damages from derailments, but the policies contain a \$10,000 deductible figure.

The maintenance problem has been aggravated somewhat by the Federal track standards, and by the fact that most of the road's traffic now consists of 100 ton hopper cars. These are, of course, handled with particular care and little trouble has been encountered with them, but clearly their use requires somewhat better maintenance.

Operation

The typical operation involves one train daily Monday through Friday, leaving Belfast about 8 a.m. and returning anywhere from 2 to 7 p.m. No problems have been encountered with the 12 hour law. The Maine Central operates two through freights each way daily through Burnham Junction, plus



a local three times a week, all of which drop off and pick up cars in interchange. The typical freight train of the B and M. currently consists of 18 to 20 cars, with 25 cars (with typical loading) the maximum. With the new feed mill at Thorndike, 12 tiles from Burnham, a significant portion of the traffic moves only between the junction and Thorndike. About half the inbound traffic and 42 percent of total loaded car traffic goes to Thorndike only.

The usual train consists of two diesels, the freight cars, and a caboose.

An engineer is required for each diesel, which is a conductor and two switchmen complete the crew. The train crew does the switching at Burnham Junction, Thorndike, and other intermediate points, but the switching at Belfast is done by a separate two-man crew, using one diesel. This procedure is necessary because too much of the train crew's time would be utilized in this switching in sodition to the line operation.

Speed is limited to 10 miles an hour, and frequently the train moves even more slowly; thus about 6 hours is the minimum time to make the run, apart from switching.

Nearly half of the total car movement consists of empties; the hopper cars bringing in the corn and feed ingredients must go out empty, and the pulpwood rack cars must come in empty. Some boxcars from inbound shipments (e.g., crates) are used to take out the tankage, which is shipped in bulk.

The road does not handle piggyback traffic; the Maine Central, which is unsympathetic to this form of transport, has discouraged the 3 and ML from considering it. The belief is that the potential volume, given the nature of the traffic into and out of the area, does not warrant the expense involved to introduce and handle the traffic.



There are no station agents on the line (previously there were agents in Brooks and Unity), all car orders and billing being handled from Belfast.

Rates

Most of the traffic is handled on joint rates, the rate to Belfast on corn, for example, from the midwest, being the same as that to other Maine points. The rate divisions are regarded as satisfactory; on lumber shipments from the west coast, for example, the road receives 5.8 percent of the rate. The road receives the same rate division on traffic to all points on the line; thus the Thorndike traffic is particularly attractive since it yields the same revenue as traffic to Belfast.

Personnel

As of June 1, 1974, the line had 36 employees: 20 of these, or over half, are maintenance of way employees; in addition to the roadmaster, 7 are train operating employees; 3 equipment maintenance, 3 billing, auditing and clerical employees, a helper, and the General Manager. The average age--34--is very low for a railroad: 17 are under 30. Only 7 employees, one of whom is the General Manager, have been with the road more than ten years. The turnover therefore has been very high. The employees have not be unionized and as a consequence, the line has more flexibility in use of employees than under the typical contract with Class I roads.

The wage rates are substantially below those paid on Class I railroads; the road is able to hire a number of employees relatively cheaply, given the tendency toward a surplus of labor in Maine and limited employment opportunities. The turnover rate, as a result, is relatively high. One consequence is that the railroad has more employees than it would likely



have if wages were higher--particularly for maintenance work. If wages were comparable to those of the Class I railroads, the line would be forced to operate with fewer workers or encounter substantial deficits.

Management

There have been in effect only three managers in 47 years; the first served 18 years (1926-36), the second, W. L. Bowen, 28 years (1936-64), and the present manager, Wilfred Hall, since 1964. Hall began service with the road as a clerk in 1929. From all indications, there has been general satisfaction with the managers and little complaint about management policy.

Summary of Expenses

Expenses for major purposes, plus data of rail and tie replacement, are shown in Table IV.

Relations between the Railroad and the City

As noted, the city owns 95 percent of the common stock and a majority of the preferred and therefore is in a position to control railroad policy; it is also in the position of being able to support the railroad financially if it wishes to continue it in operation and continuing deficits are incurred.

In practice, until 1971, the city council, which names the Board of Directors, placed only one of its members on the Board, the other members being chosen from among the officials of the major firms shipping on the line. In 1971, a primarily new city council rejected this policy on the argument that the city, not the major shippers, should dictate policy, which should be determined in the interests of the city as a whole, not the major shippers. Critics of this point of view argued, of course, that views of the major shippers, supplying most of the revenue, must be given

There were three others for short periods (September, 1935 - July, 1936; June, 1934; and July, 1934).

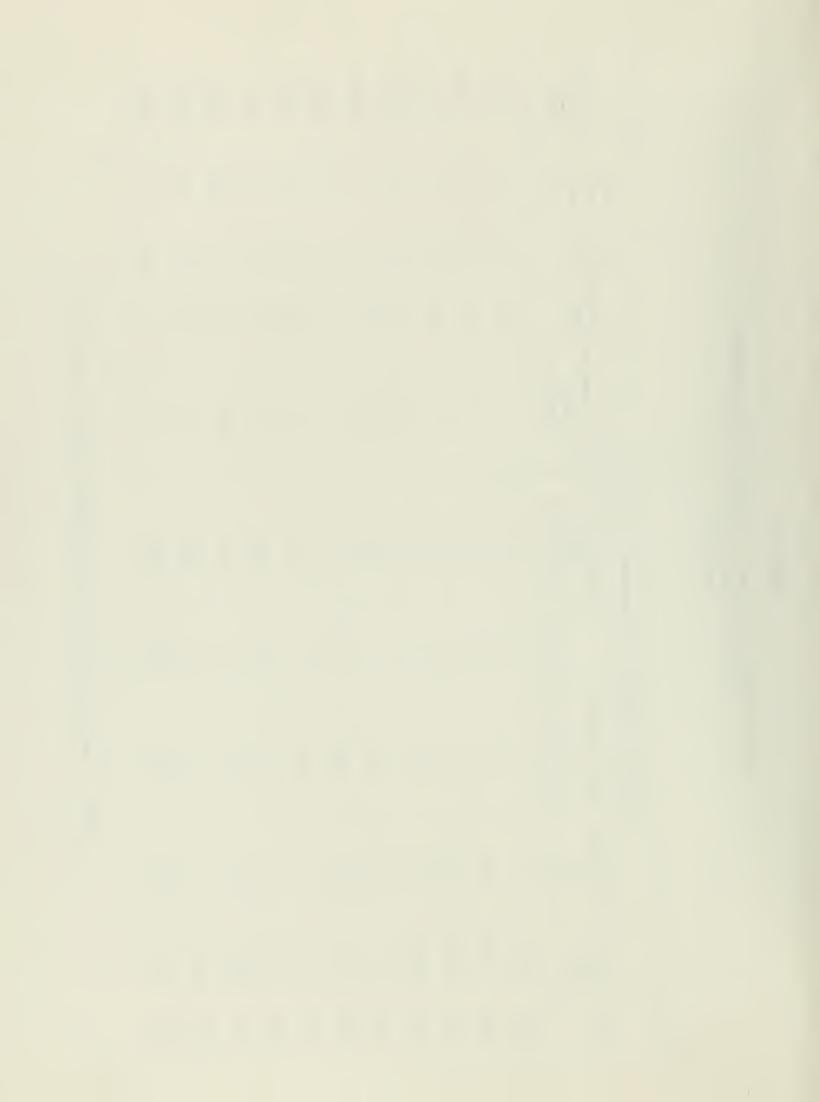


TABLE IV

MAJOR EXPENDITURE ITEMS, TIE AND RAIL REPLACEMENTS,
BELFAST AND MOOSEHEAD LAKE RAILWAY
1963-1973

The same of the sa		C	Operating Expenses	}	(thousands of dollars	(5)	gravidatusatotusattin oltul (till djör njaso -nj	2	The state of the s	
Year	Ton Miles 000s	Maintenance of Way	Maintenance of Equipment	0) 44 42 66 51	Transportation (Train Operation)	Miscellaneous and General	Taxes 000s	Nenc 0000s	Replace- ment Tons	Tie Replace- ment
1963	3,480	4	On part	Q	83	2.3	2 j.	26	Common Andrew of Professional Common Andrew of Professional Common Andrews	2,945
1964	3,719	50	شع شع	2		5	50	7.8	œ	3,376
1965	3,553	1.7	forms count	Çef	# t-	~~;	20	56	157	2,154
1966	3,785	50	rand (X)	pen.	74	6	00 red	25	†	161.9
1967	4,403	CT red end	2	~	88.7	20	23	82	9	80.083
1968	5,339	105	8	C.	T o	2,1	23	3	~	4,884
3968	5,422	Ö	~3°	7	86	23	26	36	0	6,040
1970	5,626	~	(c)	ć,	and had had	24	33	20	∞ ~	6,023
1971	768.4	148	57	2	104	26	644 643	43	1.19	7,538
1972	4,246	175	Ö	m	106	33	35	56	26	7,480
1973	4,364	236	50	3.4	116	80	43	99	747	6,903

SOURCE: Reports filed with the Interstate Commerce Commission.



primary attention. The basic issue was over the question of seeking to diversify the traffic of the railr ad and aid community development by establishing an industrial park and bringing in new industry. Considerable ill will was generated over the issue of the selection of the directors; as a compromise, instead of replacement of the shipper directors by council members, the Board of Directors was enlarged to include both groups. The result was in fact little change in policy, but a survey is now being made of the feasibility of an industrial park. One difficulty is the lack of a good area for the purpose that can easily be served by the railway, given the nature of the terrain around the city.

As a practical matter, the day-to-day decisions about the railway have been left to the General Manager, with the Board, meeting monthly, considering major questions of policy. The City Manager has not sought to interfere at all with management decisions, nor has the city council, except in pushing the question of an industrial park and diversification, as noted.

Financially, the railroad has been able to support itself from revenue since 1926; it has not asked the city for financial aid, nor has it paid any dividends to the stockholders, including the city. There has been no expectation on the part of the city to receive dividends; as best as can be ascertained, the general philosophy is that the railroad is an important asset to the community and the city government has not expected to profit directly by revenue from it—particularly since it is well known that the earnings potential of the road is limited. There is, of course, some concern about the effects on the road of a decline in the poultry industry in the area and the extremely heavy reliance of the road on this one industry.



From the standpoint of cost, with 1968 data, the cost per ton mile, including return on salvage value; id value of sale of equipment, but not taxes, was 5.6 cents; of a group of eight roads with comparable length and traffic density, the B and ML ranked third lowest as shown in Table IV.

Varying conditions lessen the significance of these precise figures, but give some rough indication of relative costs.

TABLE V.

COST PER TON MILE, 1968, SELECTED ROADS OF COMPARABLE DISTANCE AND TRAFFIC

	Miles	Ton Miles Per Mile of Line (000)	Cost Per
Maryland and Pennsylvania	39	90	10.3
Chattahoochee Valley	25	119	13.7
Marianna and Blountstown	29	106	3.6
Valdosta Southern	27	203	6.5
Virginia and Carolina Southern	27	125	3.9
Graysonia, Nashville and Ashdown	32	133	6.3
San Manuel Arizona	29	156	9.9
Belfast and Moosehead Lake	33	1.62	5.6

SOURCE: Derived from Interstate Commerce Commission data.



THE CITY OF PRINEVILLE RAILWAY *

The City of Prineville Railway is the only railway line in the United States built by and continuously operated as an integral part of a city government. The line extends 18 miles from the city of Prineville, located in almost the exact geographical center of the state of Oregon, to Prineville Junction, on the Burlington Northern's line extending southward from the Columbia River via Bend and Klamath Falls to California (Figure 1). This track is also used by the Union Pacific branch from the Columbia River to Bend. 1

Development

Central Oregon was settled at a relatively late date; difficult terrain, lack of moisture, and other factors led the pioneers to bypass it for the more hospitable Willamette Valley. Settlement began in the late 1860s, primary cattle and sheepmen back-migrating from the Willamette Valley as grazing land became scarce in western Oregon.

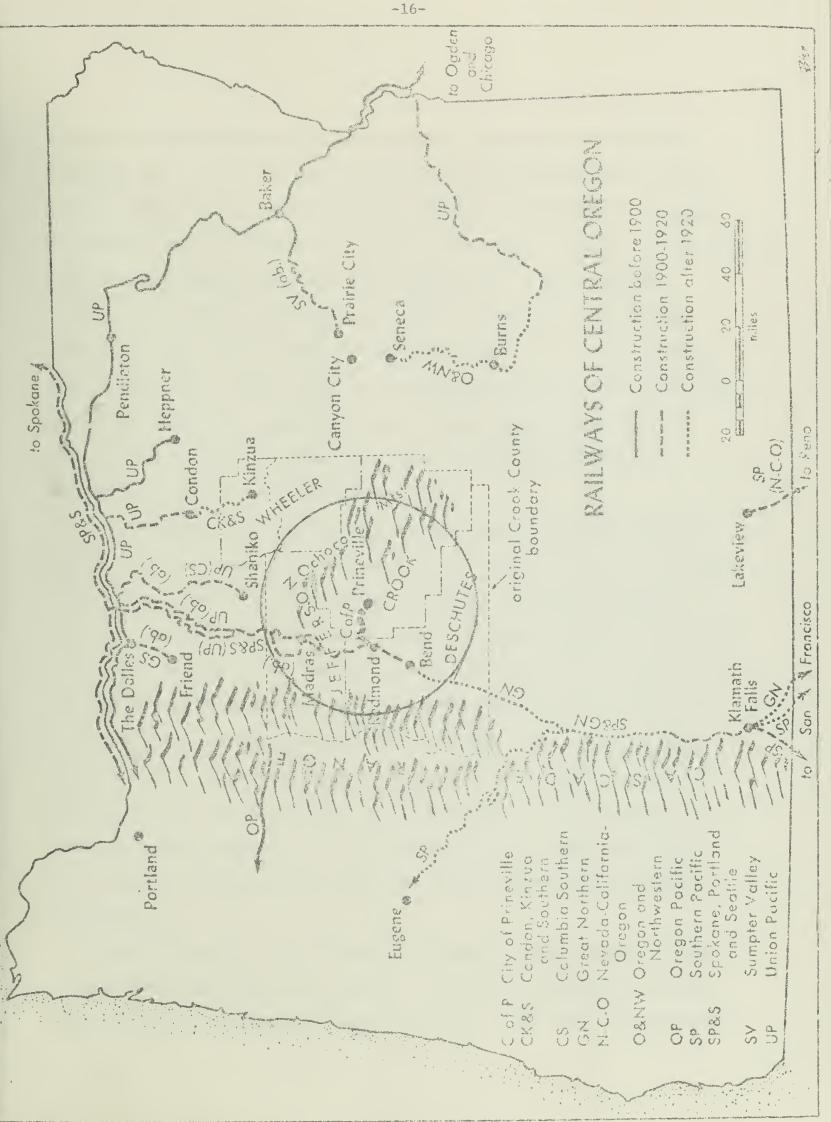
Principalle, first settled in 1869, became the trading center of a vast area, but population grew slowly, reaching a population of only 460 by 1890. From the earliest days the communities sought a railroad; all in and out freight had to be handled by wagon over laborious grades and poor roads.

But the same difficult terrain that had discouraged early settlement also discouraged railroad building. A branch from the Union Pacific's main line down the Columbia reached Shaniko, 80 miles from Principals, in 1900. Shaniko

The two roads originally built their own lines over most of the distance from the Columbia River to Bend. Ultimately all the duplicating track was eliminated.

^{*}The author is indebted to Mr. Reed Johnson, Manager of the City of Prineville Railway, to Mr. Jim Watson, City Administrator of Prineville, to Mrs. Frances Juris, former City Treasurer-Recorder and Secretary of the Railroad Commission of Prineville; to Mr. C.C. McGlenn, now retired as manager of the railway, and to other employees of the city and the railway for their assistance.



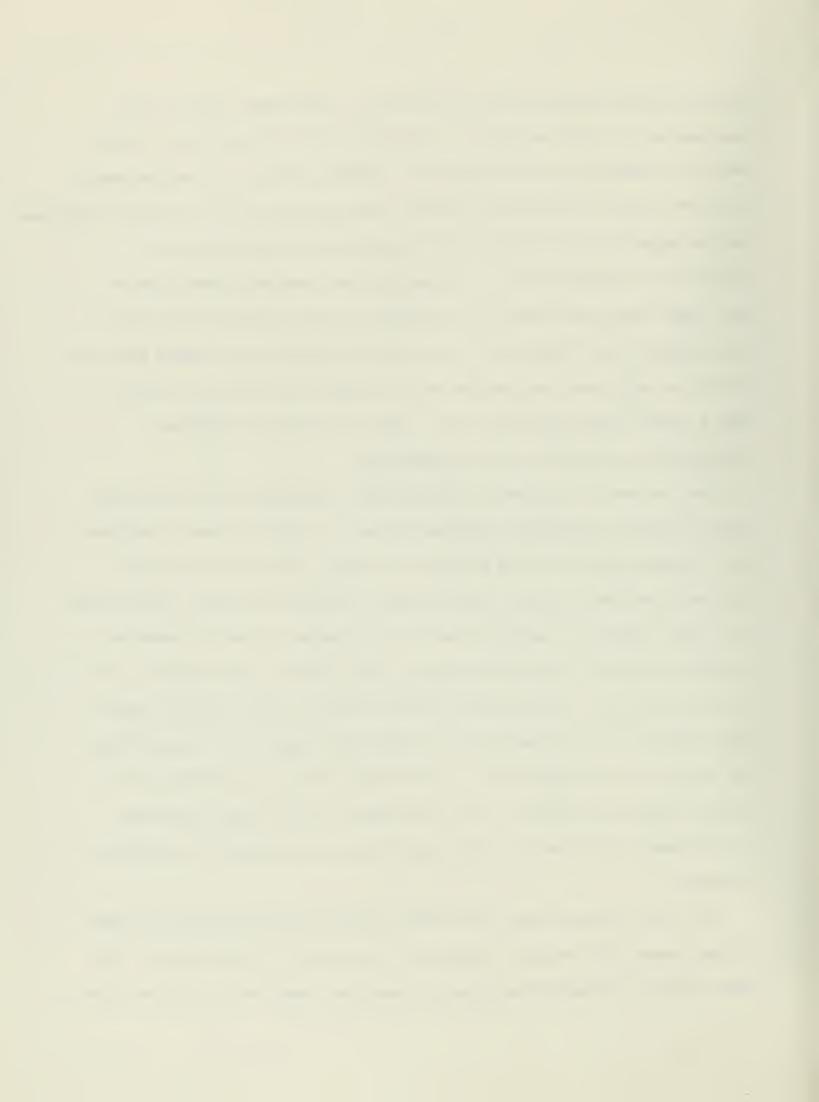




became the main shipping point for the area. A long wagon haul was still required, and a 1,500 foot drop in levation south of Shaniko was a severe barrier to extension of the line south. Finally, around 1910, as the possibilities of lumber production in central Oregon became real, both the Hill interest and the Union Pacific built from the Columbia River to Bend, down the canyon of the Deschutes River. But geographical considerations dictated that these lines miss Prineville by nearly 20 miles; the new city of Bend, the location of the lumber mills, was the destination, and to reach Bend via Prineville would have required not only a lengthy detour, but a drop and then a climb of several hundred feet. Bend is located on a plateau, Prineville in the valley of the Crooked River.

The residents of Prineville realized very clearly that the city would lose its dominant commercial position to Bend if it did not have a railroad. After several years of futile efforts to interest the two main lines and railroad promoters, the City Council began to consider municipal construction of a line, planning to turn the line over to a private firm for operation. In 1916 the voters of the city approved a bond issue to build the line, by a vote of 355 to 1. The population was only about 1,100. The city raised about \$310,000, all by bond issue, to finance the road, which was completed for operations in September 1918. By the time the road was finished, the city had become reconciled to actual operation and the council appointed E. J. Wilson, an official of a local bank who had had railroad experience, as Manager.

The first few years were relatively successful ones, although the hopes for the lumber mills were not realized. The traffic in livestock, wool and grain outbound and general merchandise, gasoline, feed, and a few other items



unbound. Plus passenger revenue, provided enough traffic to cover expenses. Carload traffic through the twentier remained relatively constant, about 700 cars originated or terminated a year (3/ per mile). Even in the first few years, while the road earned an operating profit, it did not cover interest, which the city had to meet from tax revenues. From 1924 on, except for 1929, the road showed an operating deficit for every year until 1939. The general attitude of the city in this period was that the interest was its responsibility, but the railroad should cover operating expenses, with city aid only in an emergency. But the deficits continued and increased sharply, despite drastic curtailment of expenses, in the early thirties, as the depression plus trucking caused a loss of about half the traffic volume. In the years 1933-35, the railroad's gross revenue was under \$15,000 a year, an incredibly low figure for any railroad-only \$780 per mile. Ton mileage was only 6,333 per mile in 1933. The railroad barely survived these years; maintenance was deferred to the point that it was rare for the train to get to the junction and back without derailing at least once. Bills went unpaid -at times Standard Oil | 5 California was cred several thousand dollars for fuel. The city was forced to default on the bonds in 1930 and was barely able to scrape enough money together to keep the railroad's employees and most pressing bills paid. There were times when there was doubt that the railroad could keep going another week. Throughout this period, however, there was general acceptance of the view that the railroad must be kept in operation -- that to abandon it would eliminate any chance for development of the lumber industry in Prineville.



The upturn actually began late in 1935—though the results were scarcely noticeable for several years—when Fine Products Company reopened a small unused lumber mill west of the town and commenced to ship a few carloads of lumber. The lumber industry expanded slowly. In 1938 two more mills were placed in operation, and in 1940 a fourth. Traffic rose sharply, and funds were advanced by the major roads for track improvements. At the end of World War iI, however, the road was still in bad physical condition, and commencing in 1945 the road was virtually rebuilt, with funds advanced by the lumber companies and the city, and with earnings. In earlier years the road had operated with one ancient steam locomotive. With the traffic increase, the road acquired in succession several steam locomotives, one built in 1888. In 1949 decision was made to dieselize, and a new ALCO 660 hp diesel was acquired in 1950. A second was bought used in 1955; this was sold in 1961 and replaced by another 660 ALCO in that year. A third was bought in 1969.

The Line

The line is 18 miles in length, with miles of siding; a relatively long spur extends eastward through Prineville, north of the business district to the Ochoco Lumber Company mill on the east side of town, and





another climbs the ridge on the north side of the city to reach three industries. The main line follows the Crooked River Valley for most of its length, then climbs out of the valley on a $2\frac{1}{2}$ percent grade to the junction. The Burlington Northern line crosses the Crooked River on a bridge 300 feet above water level.

The track has been well maintained for several decades and basically is in good shape, although some additional work is necessary to reach Class II Federal track standards (25 MPH allowable speed). There are two problems with the track. Most of the line is laid with 75 pound rail; while in good shape, it is relatively light for the traffic volume. Some 85 pound rail has been laid and the present manager would like to go to 112 pound rail—but the costs (of used rail taken up on main lines) have increased tremendously in the last year—from \$90 a ton a year ago to \$268 a ton this year. Heavier rail would of course allow greater speed. The second problem is the use of lava cinder ballast; while plentiful and cheap in central Oregon, it is porous and powders easily under the ties, failing to hold them tightly and thus allowing the rails to get out of alignment.

The annual tie replacements have been relatively low compared to many Class II roads, averaging about 100 per mile in recent years. In large part, however, this has been made possible by the relatively good maintenance standards over the years, with little deferred maintenance. Processed ties have increased sharply in price, from \$8.10 a year ago to \$12.52 in 1974. The road is now commencing to buy locally cut unprocessed ties and send them to The Dalles for processing.



Only four men plus the foreman and leadman are used in maintenance work, but shift has been made to a high degree of mechanization, in order to hold down wage costs. There had been little mechanization; the road now has a tamper and ballast regulator, and tie cutter, and is planning additional equipment.

The present management prefers to replace some ties through the line each year, rather than to rebuild whole sections at a time. Tie life of processed but not first grade ties is estimated to be 15 to 20 years. A substantial number of good ties are obtained from major roads when branch lines or second track are removed.

Speed is limited to 16 miles an hour. There have been no line derailments in recent years; some have occurred in switching operations, due not to bad track but to the eternal plague of railroads serving lumber mills, small boards left on the rails which derail the cars. The train conductor lost a foot in one such derailment.

The Equipment

The line has three diesels, a l identical—660 hp 199,000 pound ALCO 6 cylinder engines. The first was purchased in May, 1950, for \$81,000. The second, built in 1941 for the Spokane, Portland and Seattle as their number 10 was purchased January, 1961, for \$23,095, and the third was acquired from the Oregon and Northwestern in 1969. All three have been completely rebuilt in the last four years, one at a time, by Morrison—Knudsen in Boise, Idabo, for amounts ranging from \$45,000 to \$70,000. All therefore are in first class working condition and usable for a number of years. All are equipped for multiple operation. (This wiring was done by



the road's shop forces.) The road has hal no difficulty in getting parts thus far, and the inventory of parts is very substantial. Given present tonnage, somewhat larger diesels would be optimal, were it not for the light track and the strength of the bridges. All constraints considered, the units serve the road well.

The line owns no freight cars except two ballast cars and two hopper cars that came from the Nevada Copper Belt, and a modern caboose. The road has given no serious thought to the purchase of freight cars, despite its relative surplus of capital; the present manager feels that the lack of space for maintenance and the labor costs of repair are such as to dictate against car purchase.

Over the years the road has had no serious continuing car shortage, partly because it is supplied by two major roads with relatively adequate car supplies rather than just one—although a single order is sent in covering both roads. Cars are ordered daily. As primarily an originating road, the line faces a greater car problem than terminating roads but on only a few occasions has the car supply become critical. Car supply is particularly important in the lumber industry to minimize rehandling, and regularity is essential for handling of chips. The road does benefit from the fact that most of both inbound and outbound shipments, except chips, are handled in boxcars that can be used for a variety of traffic. A portion of the rough lumber is shipped out in flat cars. The only nuisance problem—an illustration of a defect in national utilization of freight cars— is that Southern Pacific cars bringing rough lumber from northern California for milling cannot be loaded outbound except on a rare shipment going to the Southern Pacific.



Operation

For a number of years, when do lay traffic was averaging around 20 cars the line operated one train a day during the work week, plus a run to the junction Sunday night to pick up empties. But as traffic increased in 1968 and 1969, the road encountered two dilemmas—essentially in economic terms, discontinuity problems. First, the traffic had increased beyond the capacity of the two diesels to move the train up the grade to the junction. Secondly, it was becoming impossible for the train crew to do the switching and the line operations without excessive overtime.

To go to two crews and two trains per day operation obviously would add to operating costs. One alternative was to continue with one train per day, but to use two crews, one for switching, one for line operation—but this solution would result in neither crew's time being fully utilized (yet they would receive a day's pay). The alternative, of two trains per day, resulted in better utilization of time, plus offering two significant advantages: loaded cars would be moved to the junction more quickly and per diem reduced; and empties brought in more frequently. (There are two freight trains a day each way that drop off cars, one daytime [UP], one at night [BN].) Furthermore, the sidings at the junction were inadequate to hold the number of cars that were being handled; as it was the line had to build another half mile of siding, and is now prodding the BN to extend the siding still more.

Thus the decision was made in 1968 to go to two trains. While this was possible with the two diesels (both of which were needed on both trains), it left inadequate time for diesel maintenance—and thus a third unit was



essential--particularly as by then it was obvious that rebuilding of the diesels was becoming necessary. As noted, two diesels are used on each train, each engine alternating off the train for complete maintenance. On the morning train, the crew begins switching at 4 AM, distributing the empties that came in on the evening train and picking up the cars loaded the previous day at one set of mills. (The lumber mills operate on a one shift basis.) The train leaves for the junction about 8 AM, drops off the loaded cars, and picks up the empties left during the night. The night crew commences switching at 4 PM, distributing the cars brought in by the morning train, reaching the other group of mills (typically those along the main line plus Ochoco Lumber), the train leaving for the junction between 8 and 9 PM, returning around midnight. Thus each crew works 8 to 82 hours. A four man crew is used on one train, a five man crew on the other. Given the extensive and complicated switching the line regards a four man crew as the minimum, even if negotiations with the Transportation Union could lead to an agreement for a smaller crew. Each crew does both switching and line operation.

Part of the switching involves separation of the inbound empties to get them into proper sequence for each mill; partly it involves placing the empties and picking up the loaded cars at each mill. The inbound cars must be placed on the appropriate sidings. The outbound cars must be segregated between Union Pacific and Burlington Northern traffic, a task performed by those two roads prior to April, 1974.

Currently the trains are taking about 20 cars out on each run, or roughly 40 cars a day.



Lumber Traffic

At least 90 percent of the traffic is directly related to the lumber industry. There are five elements:

- Outbound traffic in rough lumber--2 by 4s, etc. Some of this, particularly from Louisiana Pacific and Pine Products, is shipped on flatcars.
- 2. Outhound traffic in millwork, now the largest item. This is shipped entirely in boxcars.
- 3. Outbound traffic in chips--bark, shavings, scrap wood, which goes primarily to hardboard plants in the Portland-Longview area.
- 4. Outbound traffic in logs, a new type of traffic within the last year. These are cull logs, shipped to the Portland area by Weyerhauser for chipping.
- 5. Inbound rough lumber, mostly from California. for millwork production. This moves on MIT rates.

Lumber production is primarily from cutting on Forest Service land; the cut in recent years in the Ochoco National Forest has been as follows:

Year	Million Board Peet
1969	117.9
1970	118.1
1971	133.4
1972	157.4
1973	163.6

Of this, in 1973, about 27 million board feet from the Snow Mountain area went to Burns, the rest to Prineville; on the other hand, about 30 million



board feet is cut from privately-owned timber land in the area, most of it owned by Ochoco Lumber Company. Some logs are trucked in from the Mt. Hood area, but the quantity is not great. The output currently is from 80 to 85 percent pine, but pine is being overcut; over time the percentage of pine is about 70. Dead logs are brought in over a wide area for the stud plant, which produces 2 by 4 studs from dead 10 g s. The area does not supply adequate rough lumber for the millwork operations, and thus rough lumber is shipped in by rail from other lumber producing centers.

There are currently seven major mills:

- 1. Ochoco Lumber Company, a producer of rough lumber only, much of which is sold to COIN. The firm is partially owned by Collins Pine Company.
- 2. Pine Products, including the Prineville Stud Mill, a locally-owned company and the pioneer producer.
- 3. Hudspeth Mill, a family-owned business, which also operates a mill in the John Day area, now only a producer of rough lumber.
- 4. Consolidated Pine, a producer of both rough lumber and millwork, owned by New York investors.
- 5. Louisiana Pacific, the only large outside firm to operate in the area. It purchased the mill of Prineville Forest Products Company, which had closed down after about four years of operation. The mill produces only rough lumber, including railroad ties.
- 6. COIN Millwork, which has developed over the last 15 years from a small enterprise to a major millwork producer, all of the lumber being purchased.
 - 7. Clear Pine Moulding, also a millwork firm only.

All of these firms are located on the rail line, and all ship primarily by rail. Some millwork goes out by truck, particularly to points in the



northwest, but this is a negligible part of the total. Virtually no lumber goes out by truck except on a rare backhaul. The chips are shipped entirely by rail, but some sawdust is trucked to Bend, 35 miles away.

There are two small lumber firms that do not ship by rail—a new juniper log mill, and Burnett Box Company, which produces box shook for the fruit industry.

In addition to these, Weyerhauser, which has no mill in the area, ships out cull logs.

The Deschutes National Forest has not been affected by the tussock moth, which has played havoc in eastern Oregon. The last fire of any consequence was in 1968, but all the timber was salvaged.

The Future of the Lumber Traffic. The extremely heavy reliance of the railroad upon the lumber traffic is not at all surprising; the railroad was built in part in the hope that lumber mills would be built in Prineville, and this result was attained. But there has been some concern, on the part of the railroad management and of the city government over the years, of the effects on the railroad of a sharp iccline in lumber production. When there was one less mill than there now is—in 1966—it was widely believed that there was one more mill than the timber cut could support. Currently the mills are not operating to capacity—but they do well financially as long as lumber prices are high. There has been some downturn in the last two months because of the decline in housing starts, but percentage wise this is not great.

The current output of lumber depends primarily upon Forest Service policies in the area with regard to sale of timber. At the moment the



Forest Service is operating on an interim plan involving some planned overcutting; ar inventory of timber la been made and in 1975 a new cutting
plan will be announced; it is not clear whether this will involve more or
less cutting. In general, however, both the Forest Service and privately
held timber lands in the area are operating at least close to a sustaining
yield basis, and thus no drastic change in output—and therefore in railroad
traffic—is likely.

Lumber Rates. The rates on lumber to the midwest and east are the same from all points in central Oregon, the railway being a party to the joint rates. Prineville therefore is on the same rate basis as competing main line shipping points. The road has never had serious complaint against the major roads over the rate division, and the adequacy of the division is supported by the good profits the road has made in the last two decades. The opening of the Chemult Gateway in 1968 has increased the flexibility of shippers in the selection of routes and in some instances meant lower freight rates for the shippers.

The primary trouble over rate -- the source of one of the few major controversies between the railroad and a major shipper--arose when COIN Millwork began to bring in lumber from outside. Most of the competing mills are on main lines; the lumber comes in, is milled, and goes on its way

When the Great Northern completed its line from Bend into California in 1931, this made it possible to ship lumber to the southwest via Klamath Falls. But the Great Northern would not open the Chemult Gateway on lumber traffic to the southwest because it wished to insure a longer haul via the Columbia River. One bizarre consequence was that rough lumber coming from northern California had to be routed via Portland instead of on the short route via Klamath Falls.



without backhaul. But the lumber coming into Prineville for milling has to come in over the line and go out again. Originally there was a 10 cent per 100 rate additional charge—which COIN found incolerable. Following extended negotiations in 1966, and severe criticism of the railroad by the shippers, the differential was reduced to 2 cents. But this transit charge goes to the main line roads, and the City of Prineville management argues that too great a concession was made in that it is not breaking even on the transit traffic, and that the MIT charge should accrue to it, not to the main line roads. On the other hand, COIN Millwork is of great importance to Prineville, and given the overall profitable situation of the railroad, the concessions on MIT traffic can be justified on the basis of community development.

There has long been discussion of a paper or hardboard plant in Prineville and this has been revived with the establishment of the Louisiana Pacific mill. Such a plant would end the outbound traffic in chips but create some inbound traffic in chips and outbound traffic in the products of the new plant. But apart from thi , the mill would be an important source of employment in the community.

The Agricultural Traffic

The agricultural traffic, once the mainstay of the railroad, has declined in importance. In the last two decades, the potato traffic has declined after being relatively stable for a long period; the output has been down in the last two years but is now coming up again. Increased quantities have been trucked, since virtually all go to west coast markets, 80 percent to California, the rest to the northwest. Prineville potatoes,



russets comparable to those in Idaho, are of high quality but come into the market somewhat later than those of competing areas. The primary shipper is Pacific Fruit and Produce, with a warehouse located on the railroad line near COIN Millwork. Some potatoes are now going to the Gourmet Foods plant in Metolius for processing (Tatertots, 200). There is not much prospect of increased rail traffic in potatoes.

By far the most important farm product/is livestock, almost entirely cattle (Table III). There is little fattening; primarily the area is a supplier of feeder stock, shipped by truck to the midwest for fattening. The advantages of truck shipment for livestock, even over long distances, is so great that the railroads are essentially out of this traffic entirely. Primarily the cattle are fed on the range and with hay, barley, and other crops grown locally; relatively little feed is brought in (9 cars in 1973) and some of this by truck. The area is a net exporter of hay -- the second most important crop, dollarwise, but this is shipped by truck to the Willamette Valley and has not been a source of rail traffic for many years. Some wheat is shipped out, most of t directly to The Dalles by truck for shipment to Portland by water. There is not -- and never has been -- an elevator in Prineville. Wheat from Madras and Maupin, much closer to The Dalles but having elevators, is shipped by rail to Portland. The major increases in acreage in recent years are in alfalfa hay. Virtually all the agricultural production is on irrigated land--wheat for example yields 100 to 110 bushels per acre, compared to figures as low as 15 in some of the nonirrigated areas north of Cow Canyon.



TABLE III

CHANGES IN AGRICULTURE IN CROOK COUNTY

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Livestock (a tr	23,630	11,44	45,571	36,249	19,000	31,850	27,409	18 C 38	37.600	12,43	54,248	47,063	61,508	
1,506	Shecz and Lambs	249,154	256,306	142,60%	50,568	65,247	67,431	44,172	19,405	13,586	12,849	13,863	8,03	2,060	and application of the second
of the property of the propert	Hay (acres mown)	16,402	12,898	49,267	43,202	29,781	28,214	31,781	0 0 6 0	30,656	34,794	37,329	47,986	2,446 43,635	
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Agricultural	Barley	392	478	3,521	23.4	948	740	1,966	3,362	6,248	3,942	3,054	3,105	1,659	
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output	Polatoes (hundred- weight)	7,660	11,080	33,700	10,980	6,650	35,150	299.500	225,700	965,339	649,088	523,038	467,108	672	
Agricultural	Oats and Tye (bu)	29,597	51,060	130,478	26,745	48,329	50,608	950.25	T Section with the section of the se	85,365	na	58,927	52,238	50,005	uudan Makudhuun
VBri	Barley (bu)	5,376	10,710	60,630	3,521	25,606	31,578	82,234	61,038 145,389	71,217 260,411	178,191	93,758 114,297	151,954	109,240	g or a standard desirable of the standard de
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	Y 60 21	1890	1900	1910	1920	1930	1935	1940	1945	1950	1955	1960	1965	1970	761

Pormed from a portion of Waste County, October 24, 1882.

b A portion taken from Grook to form Wheeler County, Pebruary 17, 1899.

Clefferson County separated from Crook in 1914, Deschutes County in 1916.

dplus 1,299 in wearby area.

Farm data, 1959.

Act water water



The other major crop is mint, the area producing both roots for planting and oil (which is distilled by the farmers from the leaves). This is not a source of rail traffic.

Unlike many irrigated agricultural areas, the area provides little rail traffic in fertilizer ingredients. Virtually all the fertilizer is dry; it is brought in already blended, some by rail, some by truck. There is no blending plant, and no movement in large capacity hopper cars, as has occurred elsewhere.

Manufactured Coods

In earlier years the line, in common with other carriers in the period, handled substantial LCL merchandise traffic. This was taken over by trucks in the late twenties; in 1934 the city placed a tax on truck shipments, in an effort to protect the railroad traffic, but because of merchant protests this was immediately repealed. There was likewise some inbound carload traffic in manufactured goods, although the volume was never great, given the small size of the city and the fact that Bend retained its position, gained after 1910, as the dominant wholesale center for the area. There were several major types:

- 1. Automobiles, retained until the use of multideck open cars, which require rather expensive unloading facilities.
 - 2. Cement, eventually taken over by trucks.
- 3. Petroleum. This was one of the last areas of the country to receive gasoline and diesel fuel by rail, on the part of the two major companies in the area. Standard of Culpfornia and Union. Only in the last two years has this traffic been shifted to tank trucks.

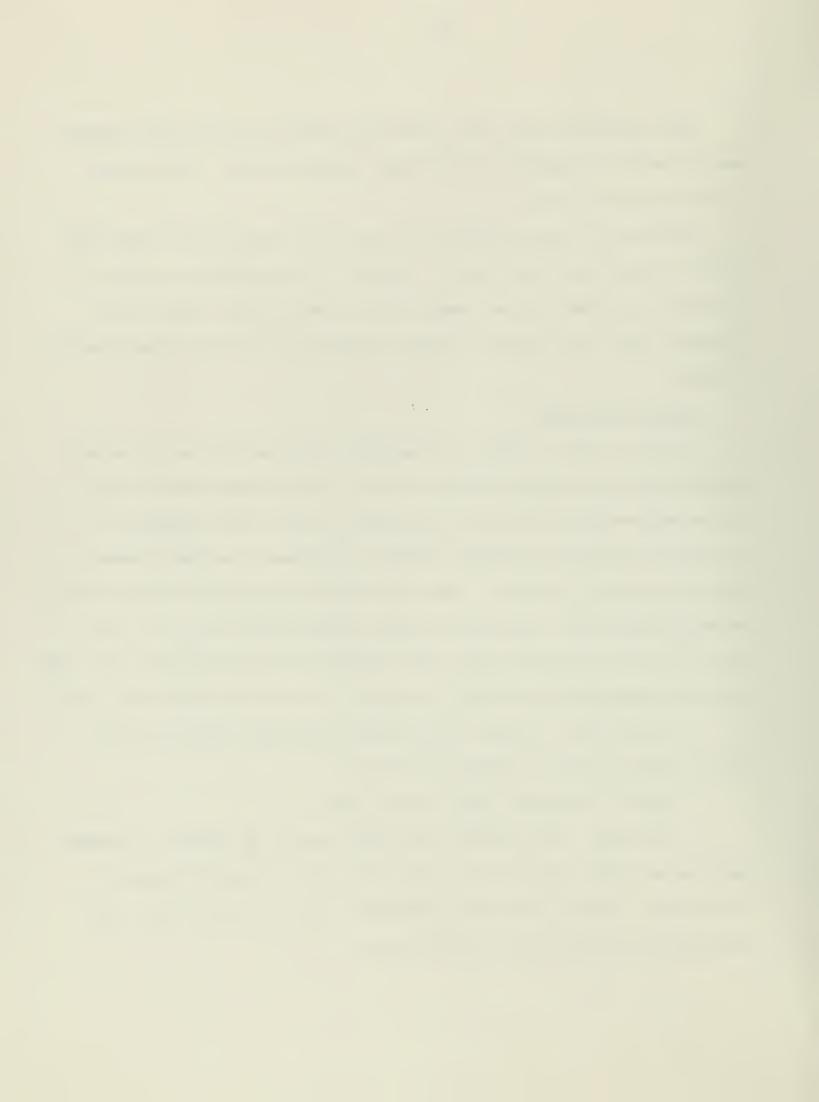


TABLE IV

Cars handled, by Type of Traffic, City of Prineville Rallway 1920; 1950 - 1973

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Lumber by-products	1	\$	00	00	180 780 780		1,016 1,016 1,054	2	1,273 2,240 2,444 3,012	2,983
Lumber	outbound 0	,93	7,446	504	6,633	40,40	4,766 7,912 7,366	200	5,421 6,375 5,848 6,024	6,647
Year	1920 out	20,00	1952	50 50	1956	196	1961	96 96	1967 1968 1969 1970	1971

ns: not separately state.

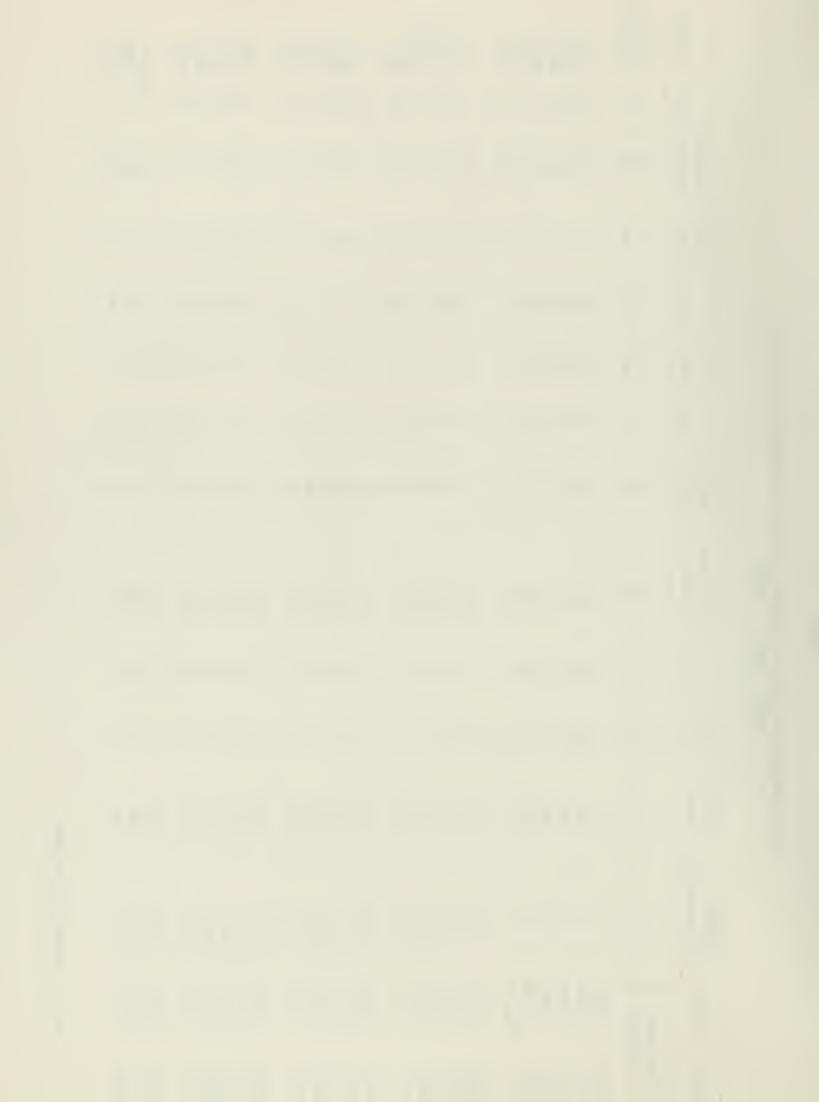


TABLE V
TRAFFIC, CITY OF PRINEVILLE RAILWAY, 1973, TONS AND REVENUE

On the latest Contract		Tons		Parramen
Commodity Group	Originated	Terminated	Total	Revenue
Farm Products	1,136	278	1,614	\$ 4,800
Food		248	248	789
Textile Products		22	22	89
Lumber and Lumber Products	354,225	60,553	414,778	713,443
Furniture		27	27	150
Paper		210	210	992
Chemicals		242	242	21.0
Petroleum Products		4,060	4,060	5,626
Rubber products		2,200	2,200	13,039
Stone, gravel, etc.		450	450	782
Machinery, incl. electric		74	74	407
Waste, scrap		369	369	2,065
Total.	355,561	68,733	424,294	742,426



A limited amount of LP gas still comes in, but the total volume used has dropped sharply since a natural gas pipeline was extended to the area in the late sixties.

Apart from various miscellaneous items, partly equipment for the mills, which continues, one new major source of traffic has developed, namely, in automobile tires. In 1969 a major Pacific Northwest tire distributor, Schwab, located its warehouse in Prineville and ships in an average of about three cars a week and even ships out a few carloads.

The road has never developed facilities for handling piggyback traffic, although this has been considered on several occasions. The present management is convinced that the potential traffic is so limited that the additional expense would not be warranted.

The city administration has long been interested in diversification of the railway traffic and increasing the economic base of the community.

Obtaining the tire distribution activity was one step. Some years ago the railway acquired property for an industrial park but no development has yet occurred; the city is now having a survey made of potential industrial development with EDA financing. Some interest has been expressed by potato processing firms, and there has long been talk of a hardboard mill.

In general, while the railway may experience some decline in lumber traffic, for the foreseeable future the prospective traffic is certainly adequate for profitable operation of the line. The success of COIN Millwork and the smaller remanufacturing firms in developing Prineville into a major millwork center lessens the dependence of the community on lumber output—even if it brings the railway a substantial volume of low-profit MIT traffic.



Very little of the road's present traffic is vulnerable to truck competition.

Earnings

Table VI shows the net revenue from railway operations over the history of the railroad. After 14 years of losses (1924-38, except 1929) the road has shown a profit in every year except 1945, when the heavy maintenance expenditures produced the largest deficit in the road's history. (This is a somewhat misleading figure since much of the expenditure was necessary to eliminate deferred maintenance.) A high of \$165,000 earnings was reached in 1958; this was followed by some decline as lumber production fell for a period. As traffic increased, the profits rose again, reaching a new high of \$223,000 in 1973. This is a return on book value of about 20 percent, well over 100 percent on salvage value, but no more than an average return on replacement cost.

Table III shows the major items of expenditures over the last decade. It should be noted that total operating expenses rose almost as rapidly as total operating revenues (partly, of course, because wage levels rose faster than freight rates). Costs of train operation more than doubled and net rent increased almost fourfold (partly because of revision of per diem rates). Maintenance of equipment and general expenses lagged behind revenue.

Throughout the decade the maintenance of way expenditures have been only about half as great as the train operating expenses—in contrast to the Belfast and Moosehead Lake and to most relatively light traffic lines. This is partly due to the fact that maintenance had not been deferred.

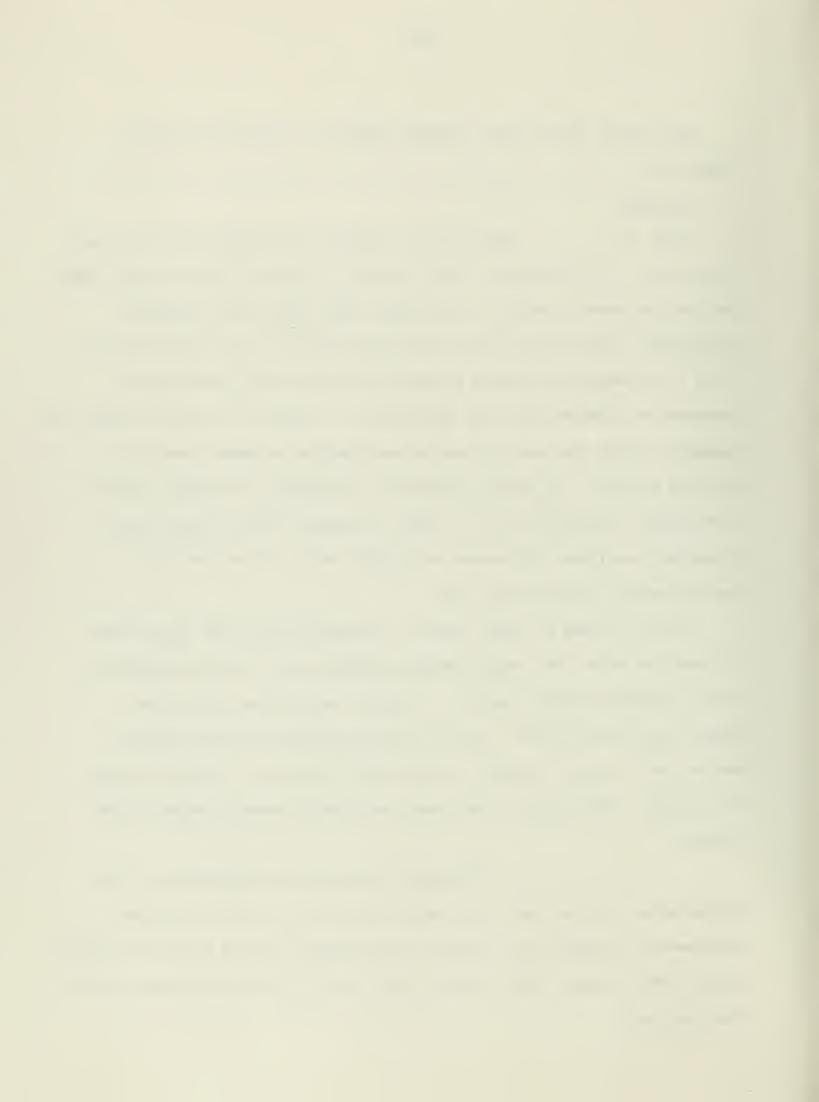
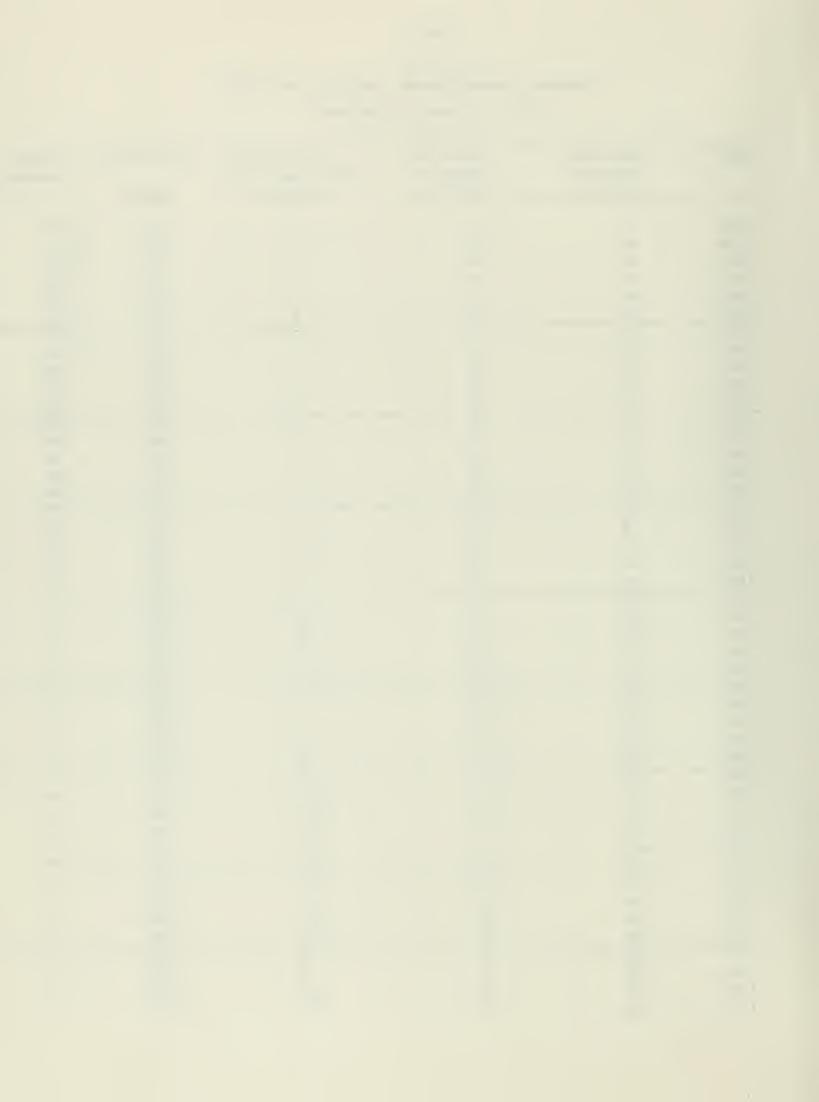


TABLE VI Revenues, Expenditures, Earnings and Traffic

City of Prineville Railway-

1919-1974

Year	Operating	Operating	and the state of t	timese attenue to the comment of the	HANGEPUREAU 1994.
		Obergrang	Net Railway	Ton Miles	Revenue
	Revenues	Expenses	Operating Income		Passengers
	(\$000's)	(\$000's).	(\$000's)	(000's)	ar till gjendigstar y velglade og stilleter i næger henget til en til gjendelige skillet sjende flat fra til t
1919	34	23	10	204	8804
1920	49	37	12	245	15213
1921	36	34	2	175	9248
1922	38	37	2	180	9319
1923	41	35	6	250	7796
1924	33	42	~ 9	225	2152
1925	30	42	annecension metricina in come processo and metricina in a confirmation and	2.07	2173
1926	30	35	and of	2.35	1197
1927	27	28	_ 1	257	556
1928	28	30	2	231	562
1929	32	31	0	231	464
1930	21	27		171	165
1931	19	24	- 5	164	152
1932	16	21	- 5	152	36
1933	14	19	- 5	114	650
1934	14	19	- J	159	147
1935	15	ske 2 inimen mermeti e si gjinggamansimutestenamsimuse sanosinia tes bes	estantinamenta de la desida en la regio proposa en es la grego filma de la tenera del tenera del calabora de la del calabora de la calabora del calabora de la calabora de la calabora de la calabora de la calabora del calabora de la calabora del la calabora de l	143	33
1936	18	2. 3.	3	2.75	17
1937	26	40	15	380	52
1938	41	48	- 11	699	45
1939	78	67	6	1718	6
1940	105	70	annente duas pura anticipato y residuationem intereste de glippi annotamente de contratamente de citi des anticipat Se to \$	2042	water water
1941	129	65	56	2563	risks dear
1942	1.48	84	53	3041	tires eath
1943	122	89	24	2476	satistic entre
1944	141	1.1.2	17	2777	ovip mta
1945	103	TES	nation of the state of the stat	2444	non-turnelinternorum anno communicati (mediana de communicati (mediana de communicati (mediana de communicati della della dell
1946	152	136	9	2557	phile diserr
1947	191	170	5	3247	orașis Elain
1948	270	204	47	3529	golds Allow
1949	334	22.7	81	3723	regul firebi
1950	393	286	85	4847	anglidigan daga analolidinga garan ordadira (** e* * * * * * * * * * * * * * * * *
1951	417	257	142	5014	apa shid
1952	374	222	136	4446	post ellen
1953	371	214	138	4363	HOCH KEELA
1954	406	241	146	4704	alor with
1955	405	rote, in the state state recursive symbological production continuous and curring recursively as statement . Poly 4.	anadama a generalizar napar de reservoir agra agrangia praesa adeletarea de relación de seletar destrumbian de La late II	4/30	gar nganismpusanan nggarangan nganggan nganggan nganggan nganggan nganggan nganggan nganggan nganggan nganggan Nganggan nganggan ngan nganggan ngan
1956	357	248	85	3902	datum mode
1957 .	346	192	126	3646	gauga di Auto
1958	395	198	165	4246	Allow No-II
1959	390	214	149	4328	aver fids
1960	306	192	80	3493	rianianas sirreger rismorii susidriadinariad rissississe discontiniidini valididiniis Olema dado
	330	211	71	3657	that shop
1901					
1961 1962	351	215	1.04	4252	Andre States



Year	Operating Revenues (\$000's)	Operating Expenses (\$000's)	Net Railway Operating Income (\$000's)	Ton Miles	Revenue Passengers
and the second s	ephiliphological phological phological and emberged and emberging phological distribution of phological distributions and the contract of the	uruga magamininga salagi talah kecanggapangan Parina Perande dalam akkin dalam dalam dalam dalam dalam dalam d	The second secon		
1964	332	219	89 ·	4403	est eas
1965	364	235	95	4/19	00 00
1966	372	253	87	5056	and and
1967	363	252	75	5112	dreaf White
1968	450	258	156	6600	ttals adm
1969	466	288	131	6476	distal byter
1970	557	296	216	7199	almagaman sasaan ku kasaan ku ka ayaan aya ada da kasaan u alamada da da da da da asaa kasaan ah asaa Ayada da da
1970	665	371	231	7488	ena (0.0)
1971	688	421	181	7057	cold, tree
1972	751	422	233	7784	World Willes



TABLE VII

MAJOR EXPENDITURE ITEMS, TIE AND RAIL REPLACEMENTS, CITY OF PRINEVILLE RAILWAY 1963-1973

Transmission of the Control of the C			of two excitors (concepts declare difference), spin general symbormory, degler by couples			•				
		0	Operating Expenses		thousands of dollars)	(8)		Net	Rail.	
Year	Ton Miles 000s	Maintenance of Way	Maintenance of Equipment	is a ff	Transportation (Train Operation)	Miscellaneous and General	Taxes 000s	Rent	Replace- ment Tons	Tic Replace- ment
1963	7,661	57	44	And the control of th	103	26		15%	L3	760
1964	4,404	5.9	27	~3	56	29	1	(*) 	0	258
1965	4,719	10	20	4	102	28	~	27	End.	184
1966	5,056	2	43	13 ")	106	29	7	97	78	429
1961	5,112	99	94	Ŋ	109	32	90	00	147	800
1968	6,600	9	44	9	525	25	1	6	.00	835
1959	6,476	gond S	7	60	547	53	22	25	09	رم د د
1970	7,199	ф Ф	4/4	ta ^m t	148	رب اسا	24	02	lang	64 60 60 60 60 60 60 60 60 60 60 60 60 60
1971	7,488	88	n.; 30	٥٦	60 60 73	32	50	(17) (2)	20	2000
1972	7,057	CV roud part	54	ڻ/ نام	203	36	28	\$00	0	376.1
1973	7,784	103	52	ð١	221	37	38	59	9	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5

SOURCE: Reports filed with the Interstate Commerce Commission,



Relative Costs Per Ton Mile

Costs per ton mile were calculated for Class II railroads for 1968, the last year for which the I. C. C. published Class II data. Such comparisons are not entirely satisfactory because the conditions under which the roads operate differ so greatly. But they are of some comparative value. Taxes are excluded; a return on estimated salvage value is included. Table IV indicates the costs for a group of roads with comparable distance (12 to 37 miles) and traffic volume (200 to 400 thousand ton miles per mile of line).

TABLE VIII

COSTS PER TON MILE, SELECTED CLASS II RAILROADS, 1968

	Length Miles	Ton Miles per Mile of line (000's)	Cost Per Ton Mile
City of Prineville	18	367	4.4
Lake Erie, Franklin and Clarion	15	245	9.8
Raritan River	17	385	14.7
Wharton and Northern	16	261	3.5
Bonhomie and Hattiesburg Southern	27	289	.3.8
Eastern Tennessee and Western North Carolina	12	321	9.4
Mississippi and Skuna Valley	22	261	1.9
Valdosta Southern	27	203	6.5
Angelina and Neches River	12	361	20.4
Montana Western	14	208	8.5
Santa Maria Valley	18	398	8.8



The City of Prineville is fourth from the lowest in the group of 11; while this is not conclusive, it suggests that the efficiency of operation is relatively high.

Financial Relationship with the City

As noted, the city provided the initial funds, through bond issues, for construction of the line, and paid the interest on the bonds, about \$19,000 a year, or 2/3 of the total city expenditure. The figure was ultimately reduced through refunding after the city defaulted in 1930. The last of the bonds were paid off in 1963. About \$66,000 additional money was advanced by the city to cover deficits, primarily in the 1924-1939 period. Since 1945 the city has received \$2,563,480, about \$1 million of this in the last decade. The railway earnings have in recent years been yielding about one third of the total general fund receipts, and roughly four times as much as the property tax. Year by year figures are given in Table V.

Analysis of the use of these earnings over the years suggests that the result has been a somewhat higher level of city expenditures, especially on capital improvements, than would otherwise have occurred, and definitely lower tax rates. From 1964 to 1968 inclusive the railway earnings allowed the city to avoid all property taxes. (Other governmental units in the area of course imposed property taxes.)

During the period 1945-1967 inclusive, the net profits totalled \$2,102,756: of this \$1,641,011 was paid to the city and the remaining added to reserve (about half) and used for improvements to the railway. In the period 1967-1974, the net earnings from railway operation were \$1,223,000,of which \$833,000 was paid to the city, the remaining \$400,000 being used for railway improvements.



Prineville Municipal Releipts 1.00 the Railway and Property Taxes 1935-1968

Year*	Railway Contribution (dollars)	City Property Tax Levy (dollars)	City Property Tax Rate (mills)
		en e	
1935	-2,275	13,673	28.8
1936	-2,27 5	16,510	37.5
1937	-2,275	17,060	37.9
1938	-2,275	17,688	38.1
1939	#2,275	18,319	36.0
1940	-2,275	19,905	33.3
1941	12,500	22,663	33.9
1942**	10,575	11,672	14.5
1943	15,425	12,932	34.5
1944	10,000	13,621	15.1
1945	~15,000	14,488	15.2
1946	O	25,129	26.0
1947	21,698/4	25,838	25
1948	0	26,597	21.0
1949	8,000	27, 164	18.5
1950	42,965	28, 93	17.8
1951	42,521	30,511	17.3
1952	50,000	6,590#	22.1
1953	63,000	48,121#	21.0
195%	75,000	48,052#	21.9
1955	120,000	50,115#	21.6
1956	120,000	28,511	12.0
1957	120,000	43,928#	17.7
1958	The state of the s	15,815#	19.0
1959	90,000	· ·	19.2
1960	80,000 86,000	47,799# 30,934	8.7
1961	90,000	37,831#	10.3
1962	80,000	29,719	7.7
1963	79,000	29,779	7.7
1964	79,000	0	0
1965	92,000	U	U. Carrier of the Control of the Con
1966	108,327	0	G
1967	121,600	0	0
1968	80,000	0	0
1969	95,000	28,779	\$1.40 per 1000
1970	115,000	30,000	1.40 per 1000
1971	115,000	31,000	1.59 per 1000
1972	127,873	31,448	1.37 per 1000
1973	150,000	34,937	1.35 per 1000
1974	1.50,000	35,000	1.35 per 1000 1.25 per 1000
1975	150,000	40,000	1.20 per 1000

^{*} Calendar year prior to 1942; fiscal year ending in year indicated thereafter. **First six months.

[#] Including special park levy: \$1,000, 1960; \$8,000, 1961; \$15,000 other years.



TABLE X
Financial Statistics, City of Prineville Railway
1917-1973

A	В	C	D	E	F	G	H
Year	Investment	Timbilaty to City	Recepation Rate of Return	v Necessary Return	Net Earnings from Ry. Operations	Excess of Extrings Over Reces- sary Return	Rate of Return on Investment
1917	100,000 +		6				
1918	200,000	200,000	5	6,000		7 000	
1919	285,000	291,000	6	17,460	n.a.++ 10,350	-6,000 -4,110	3.6
1920	324,016	334,126	6	20,048	12,081	-7,967	3.0
1921	324,016	342,093	6	20,526	2,265	-18,261	7.4
1922	325,034	361,372	i i	21,682	5,171	-16,517	e i
1923	327,210	380,059	6	22,804	5,956	-16,848	1.7
1924	327,391	397,088	6	23,825	-9,403	-33,228	-2,9
1.925	325,499	428,424	6	25,705	-11,979	-37, 584	-3.7
1926	325,499	465, 108	8	27,966	-6,671	34,637	2 43
1927	335,499	510,745	6	30,645	-1,373	-32,018	42 C) 1/2
1928	327,979	535,243	6	32,114	-2,076	-34,190	e , 6
1929	335,349	575,803	6	34,508	370	-34,238	.0
1930	335,349	611,041	ő	36,662	-6,787	-43,44,9	-2.0
1931	335,349	6.54 , 490	6	39,269	~4,949	44,218	
1932	335,348	698,707	4	27 9×6	-5,400	-33,343	- 2 6
1933	335,348	732,055	is.	29,282	-5,139	34,423	-1.5
1934	335,399	766,527	la	30,661	-4,519	-35,180	-14
1935	335,399	801,707	4	32,068	-6,871	-38,939	-25
1936	335,378	840,625		33,625	-2, 64.	36,389	en a 2
1937	327,278	863,914	l _k	34,556	-15 184	-49,740	-4. P
1938	371,025	962,403	Es.	38,496	-10,509	-49,005	-2.8
1939	373,438	1,012,819	45	40,553	6,335	-34,218	ä.
1940	378,453	1,053,052	dę.	42,122	25 .668	-15,456	7.3
1941	385,091	1.075,144	J.	43,006	55,557	12,55	164
1942	433,908	1,111,410	14	46,456	52,861	8,400	12,?
1943	433,908	1,103,005	4	44,100	24,322	14 148	5.6
1944	433,908	1,122,803	4	44,912	16,883	-28,929	3.9
1945	453,069	1,169,993	Eq.	46,800	~79,792	- 126,592	-17 6
1946	462,300	1,305,816	Lu .	52,233	8,377	43,856	1. 3
1947	459,916	1,347 288	4	50,892	5,674	-48,2.8	F . K
1948	489,028	1,328,182	t _i	53,127	46,531	8.508	9.5
1949	495,380	1,341,130	Ĺ.	33,645	81,050	27,405	10.6
1950	589,024	1,407,369	45	56,295	34,574	28,279	14 A

⁺ end of year

^{*} negligible



TABLE X (contd.)

Financial Statistics, City of Prineville Railway 1917-1973

~ ~	<u>D</u>	12	ne Any II.								
g Johan Fransista-olivid-osphicosing	gynyddin, syllidgiaeth i ynf Aleinedddlangorvenwellangorddlanddraegolaeth ddiaybbhn	ння чиртня Аталия Аталия (А. Д. Вастият на Принят в разон Андарий, част набатилист в в	rolum ir diseservatorii relais teterate in resita mener	e del viscario "in del cito dello resendualizza del la del viscario del viscario del viscario del viscario del	ayan, place por sino direct resort i se thomps ayarayarayatil ci derito tribular relativis therein.	Excess of	1800 - Matricalizado e 1928 - Al direz septembros el Manegli Albert Alminio, intil caldedi Se				
			Recessar		Eatraings	Earnings	Rate of				
		Lisbility	Rata of	Necessary	from Ry.	Over Neces.	Return on				
Tear	Investment	to City	Return	erum Ecrum	Operations	sary letures	Investment:				
tact	211 210	1 /03 676	ž.	to at 1800 to	210 068	95 000	er constant				
1951	611,610	1,401,676	4,	56,067	142,065	85,998	23.2				
1952	623,714	1,37.7,782	4	54,211	135,660	82,543	21. \$				
1.953	647,037	1,268,562	£4	50,742	137,582	86,840	21.3				
1954	657,929	1,192,614	Éir	47,704	365,533	97,829	22.3				
1955	701,871	1,138,726	4	45,549	141,044	95,495	20.1				
1956	708,306	1,049,666	5	52,483	85,422	32,939	1.2 - 1.				
1957	712,333	1,020,754	5	51,038	125,924	74,886	27 37				
1953	741,507	975,142	5	48,757	165,182	116,425	22.3				
1959	725,262	842,372	5	42,119	149,214	107,095	20 6				
1980	730,945	740,950	Sing.	37,048	79,409	42,361	10 9				
1961	712,454	680,108		34,005	70,714	36,709	9.9				
1962	714,492	645,437	5	32,272	104,258	71,986	24 B				
1963	720,775	579,734	5	28,987	123,227	94,240	37.2				
1964	735,012	499,731	5	24,986	89,417	64,431	3.2.2				
1965	746,714	447,002	5	22,350	95,201	/2,851	12.3				
1966	753,010	380,447	5	19,022	86,698	61,676	21.5				
1.967	768,264	328,000	6	22,826	75,000	52,000	9.8				
1968	800,000 1	192,000	6	19,680	156,000	136,000	19.5				
1969	850,974	73,000	6	11,520	131,000	119,000	15.4				
1970	868,910	38,000	6	4,380	216,000	212,000	24.8				
1971	952,331	377,000 _{cr}		- 8,280 a	231,000	239,000	.24.3				
1972	1,040,270	581,000 _{cr}		-22,620 a	181,000	204,000	17.4				
1973	1,087,351	849,000 _{CT}		-34,850 a	233,000	268,000	21.4				
2010	1907, 3.71	042,00002		J4,030 4	2.7.29	200,000					

The columns show the following data:

- B: Investment as reported on the books of the railroad.
- C: Amount advanced to the railroad by the city, with compounded interest.
- D: Rate of return assumed as necessary figure.
- E: Earnings necessary to cover necessary return rate on liability to the city.
- F: Net earnings from the railroad.
- H: Rate of return on reported investment.
- r: net credit
- a: earnings on net credit

В

1. est.



The decisions about the allocation of earnings are made by the city council, taking into consideration the railway manager, the city administrator, and others.

These calculations, however, ignore the timing factor, and do not take into consideration the interest foregone on city funds advanced to the railway. The data in Table X provide this adjustment, showing year to year, the total city investment in the line, the necessary return on this figure at current interest rates, and the difference between this necessary return and the actual earnings. If the earnings are less than the necessary teturn, the liability to the city increases. With the exception of 1941 and 1942, the liability to the city continued to rise from 1917 to 1948; from that year on the figure fell continuous until in 1971 the entire liability was cleared; since that time, the city's net gain from the railway has risencapidly, by the end of 1973 reaching \$849,000.

In the last year, part of the gain from the railway profit has been offset by a reduction in Federal revenue sharing funds. One factor in the allocation formula is tax effort; since the city taxes are very low, and the U.S. Treasury refuses to regard the railway earnings as constituting payments in lieu of taxes, the loss to the city in the 1974-75 fiscal year is \$55,000—the difference between \$80,000 and \$25,000.

The City and Railway Policy

The railway is an integral part of the city government, the finances carried in a separate fund, comparable to the street lund and the sewer fund. Total annual gross expenditures of the railway are roughly the same as the general fund expenditures. The annual railway budget is determined by the city council, but is prepared by the railway in cooperation with the city administrator.



The city council delegates general supervision of railway policy to a times-member committee of the council, known is the Railway Commission, which, like other council committees, makes recommendations to the council. In fact, the commission and the council, beyond approving the budget and considering a few major items of policy, have left the management of the railway to the manager, who is selected by the council. During much of the history of the road, there has been little discord between the council and the manager. After the retirement of C. C. EcGlenn in 1967, however, the two succeeding managers did have some disputes with the council, as noted below. These disputes, however, are isolated events in the history of the road. On the whole management decisions have been left to the manager, the council members and the administrator realizing that they are not experts in railway operation. The city has recently reestablished a Shippers Advisory Committee, with representation from five of the major shippers.

Management

The road has now had a rocal of six managers, but two of these served a combined total of 44 years. The first manager, E. I wilson, had substantial railroad experience with the coloribia Southern (the Union Pacific's Sherman County branch) and had been active in the efforts to have the railroad built. The died in 1924, and the council selected another local man, C. W. Woodruff, a graduate in civil engineering, who had experience in surveying for construction of logging railroads, and was currently resident engineer for the Oregon State Highway Department in Prineville. Woodruff, able and conscientious, had had little experience with railroad operation.

Prineville shirted to the city management form of government in 1967.



To him fell the very thankless task of nursing the railroad through the horror years of the depression. But when traffic recovery came and the road proved unable to cope with it, the council ousted Woodruff and brought in an outsider, C. C. McGlenn, also a civil engineering graduate, who had spent most of his career with the Great Northern, at the time being in charge of the branch lines of that road in the Kalispell region. McGlenn proved to be an extremely able manager and built the road up to highly efficient levels. His relations with the council were good and also with the shippers, except for one dispute over MIT rates.

With McGlenn's retirement came management problems, the details of which have not been revealed publicly. He was succeeded by 0. E. Wilson, the road's auditor, who had been with the line for 20 years. Wilson, however, soon feit frustrated in the job and some persons felt that he was less well suited for a management position than he was as the auditor. After two years he resigned to become general manager of the Klamath Northern Railway. Again the council, after advertising, brought in an outsider with long railroad experience, Merlin Nikolaus, from the Apache Railroad in Arizona, primarily also a lumber carrier. Again, relations with the council proved to be unsatisfactory, and after two years he was ousted. His replacement, Reed Johnson, has had many years experience, originally with the Sumpter Valley in eastern Oregon and in more recent years as manager of the Hood River Railroad (absorbed ultimately by the Union Pacific).

The Employees

Selection of employees is left entirely to the manager. Prior to 1940 employees were non-union and were paid on a flat monthly basis, like other



city employees. In that year the train operating personnel were organized by the Railway Brotherhoods, which were recognized by the railroad. Later the maintenance employees joined the Brotherhood in that field. In general standard wage rates have been paid. There has been very little dispute between the management and the brotherhoods. The other employees were not organized until 1967, when shop employees joined the Operating Engineers. Union (not a railroad union). When their demands were not met in 1974, the union called a strike, shutting down the railroad for three days. Had the strike continued the entire mill operations would have come to a halr. Following injunctions, negotiations were resumed and the dispute settled. Later the office employees joined the same union and agreement was reached in June of 1974.

Salaries and wages during 1973-74, as shown in the 1974-75 budget were as follows:

Foreman, maintenance of way	73,128
Leadman, maintenance of way	11,045
Track worker (4)	11,781
Master mechanic	15,590
Machinist	11,045
Machinist helper, part time	2,320
Assistant auditor	10,221
Billing clerk (2)	6,890
Station agent	13,384
Engineer (2)	15,697
Fireman	12,154
Conductor (2)	15,381
Brakeman (4)	13,919
Manager	16,500
Auditor	74,722



Where there is more than one employee in a given category, the figure was obtained arithmetically; the v rious persons may receive different amounts.

The range of wages and salaries among the various employees is extremely small.

General Summary

The building of the railroad by the city has proven to be one of the most successful investments a city has ever made. After the hard years of the late twenties and thirties, the road has proven to be highly successful financially and a source of substantial revenue to the city--part of which has been used to make the city a more attractive one. But of greater importance, the railroad has enabled Prineville to become the major lumber production center of central Oregon, outdistancing Bend, which was the original center. Without the railroad, the Ochoco logs would have been trucked to Redmond and other rail points, at substantially higher overall cost. In addition, the railroad has enabled the city to become a major millwork center; this would have been impossible without the rillroad because of the importance of MIT privileges for this activity. And the railroad made it possible for the city to become a distributing center for tires, and possibly in the future for other commodities as well. Another future possibility is hardboard products, which would not be possible without a railroad. On the other hand, the road has proven to be of little continuing importance for agriculture, once the major source of traffic. By the nature of agriculture in the area, most of the crops are either consumed locally by livestock, which in turn is trucked out, or it is supplied to markets within truck range, such as Portland and the Willamette valley.



MUNICIPALITY OF EAST TROY RAILWAY

By far the smallest of the municipal lines (the railroad operated by the Village of East Troy, population 1,711, in southeastern Wisconsin, 36 miles southwest of Milwaukee. Located just be and the Milwaukee metropolitan area, East Troy is a farm trade center and manufacturing town, in the rolling hill country of southern Wisconsin. The line extends six miles from the village to Mukwonago, where it connects with the main line of the Soo Line, a subsidiary of the Canadian Pacific, from Chicago to Minneapolis (Figure 5).

Development

Unlike the other two lines, this road was not built by the municipality, but was taken over to prevent abandonment. The line was built in 1907 by The Milwaukee Electric Railway and Light Company (IMER), operator of the Milwaukee street car and interurcan lines, as an electric interurban rail-road out of Milwaukee, carrying passengers only. The line used a grade that had been built in 1856-57 for the Milwaukee and Beloit Railroad, a line never completed. Service beg. 1 December 13, 1909. Extension of the interurban was planned to Delevan and Beloit, but no additional track was ever built. Until the coming of the automobile the line handled considerable commuter and shopping traffic to Milwaukee and some resort traffic westbound. It was not a heavy traffic route, however. Service was operated every two hours in the peak years. As East Troy had no main line railroad, the line carried the U. S. mail, and in 1915 commenced to provide freight service.

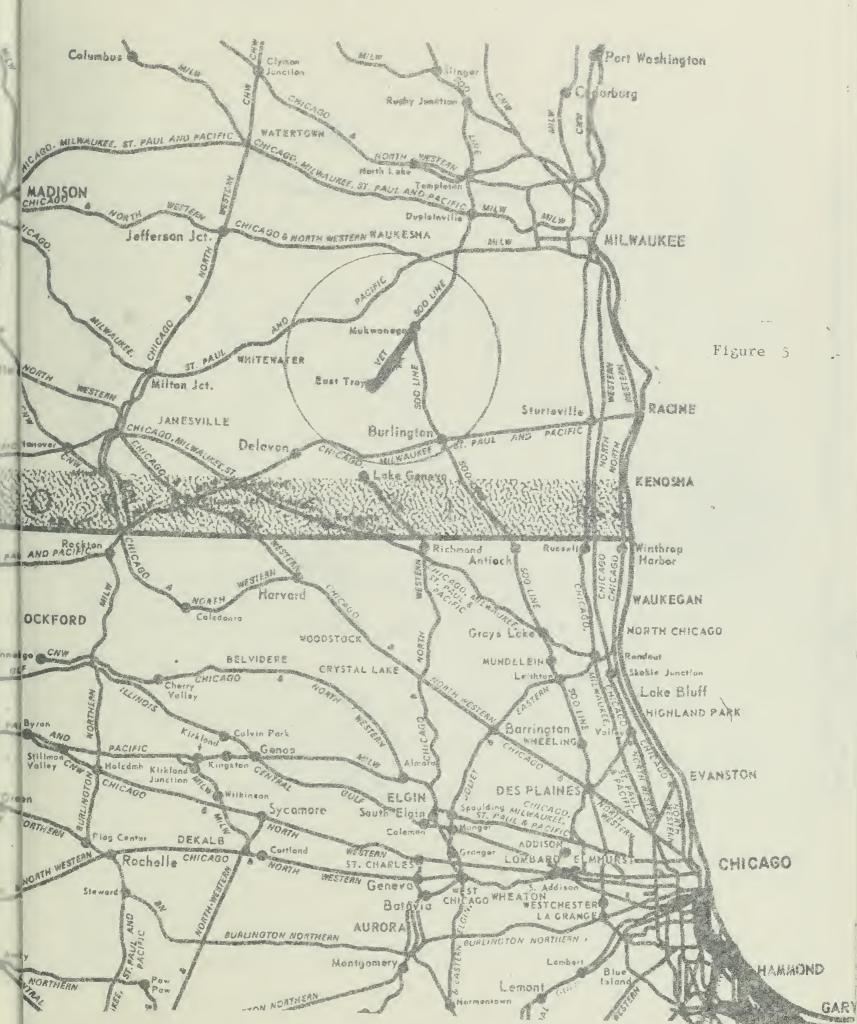
In 1938 TMER asked permission to abandon the East Troy line.

Passenger service ended August 13, 1939 and shortly thereafter the track

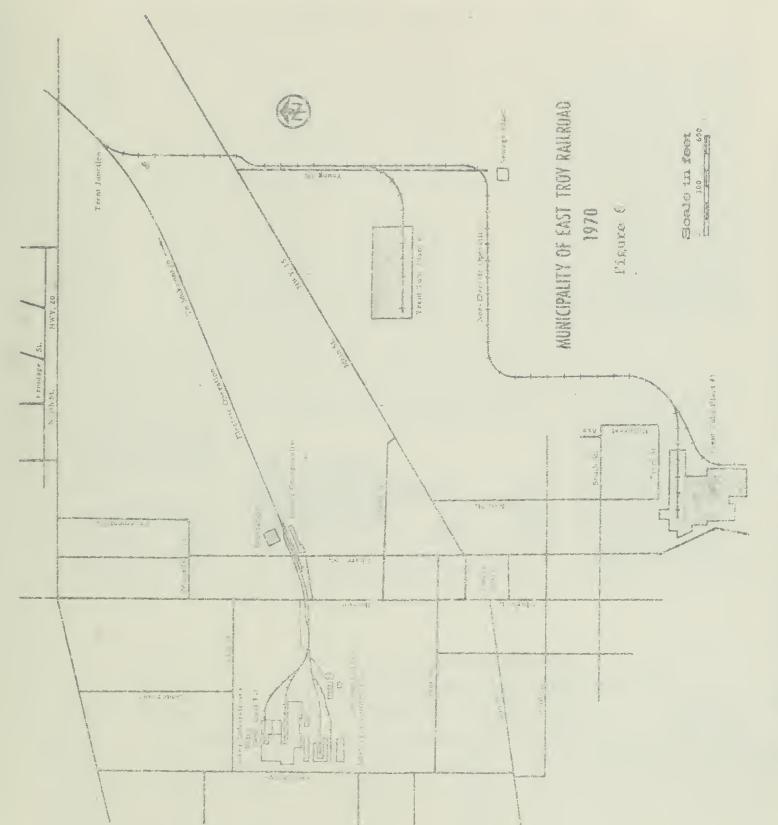
The author is Indebted to Mrs. Doris Peterson, Village Clerk-Treasurer of East Troy; to members of the Railroad Committee; to officials of Treat Stainless Steel Tube Company; and to the Wisconsin Department of Transportation for supplying copies of the annual reports.



-51aReproduced from Illinois Department of
Transportation Railroad Map of Illinois, 1973







he Milwaukee Electric Rail ay and Light Co. From Joseph M. Canfleld, TM -(Chicago: CERA, 1972).



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The Burlington Line has such well know resorts, as Blg Muskego, Wind Lake and Lakes about it. Waterford on the Fox River, Rochester, Browns Lake, Burlington and the Rivers and Lakes about it.

INTERURBAN FINES OFFER SUMMER PEFASURE



WATERESHA BEACH The Mecca of Thousands ' Pleasure Seckers-Waterlown Line

These places are well worth a visit. On the Wankeshill Watertown Lluc there is Was kesha, the City of wonderful springs, and Waukesha Beach on Lake Pewankee, Na Jawicka Lake, Delafield, with its military academy and its State Fishing Hatchery, Historic Nashotah, the old mission to the Indians, Beautiful Oconomo-woc on its three Lakes, and the thriving city of Watertown.

Get a summer folder and see how oleasarable a one day trip may be made

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east of Mukwonago was torn up. The shippers of East Troy were greatly concerned about the loss of freight service and purchase by the village was proposed. One June 27, 1939, the voters of the city approved the purchase, by a vote of 377 to 14. The purchase price was \$10,000. Under the agreement with TMER, the latter agreed to lease back the line for \$400 a year and operate it -- as it did so for 10 years. In 1949 TMER terminated the lease, as it was in the process of moving out of the transport field. The village commenced to operate the railway itself, purchasing the electric freight motor, M15, with which TMER had operated the line. TMER had been a party to joint rates; these were caucelled when the village commenced to operate its own line-partly because the village sought to avoid the billing complications. The Soo agreed to pay a flat sum per car to the village line. For thirty years, the old electric motor did all of the road's work, and might well have continued to do so yet. But in 1969 the town's largest industry, a manufacturer of steel tubing, undertook a major expansion of its plant, for which it needed rail service; a spur line of about a mile was required, and the decision was made not to electrify this line but to obtain diesel power. A used 44 ton diesel was acquired, but at first used only when the steel tubing plant was shipping. by eventually, because the trolley installation was deteriorating the diesel replaced the electric motor, for all service, although, as explained below, the electrical system is still in operating condition.

This early history of the line is based on the account in Joseph M. Canfield, TM - The Milwaukee Electric Railway and Light Co. (Chicago: Central Electric Railfans Association, 1972).



bse of the Line for Pourist cassenger service

In 1972, the Wisconsin Electric Railway Historical Society, a concreti organization made up of persons interested in the history of electric railways and preservation of equipment, concluded an arrangement with the Village of East Troy to operate passenger cars over the line, as a tourist attraction rather than as a common carrier. During the summer cars are run on hour and a half intervals daily; during most of the rest of the year, only on weekends. Cars operate from East Troy to a point about one mile west of Mukwonago, where the Historical Society has located a museum of old railway equipment. Service is currently provided with an interution can that originally operated on the Chicago North Shore and Milwaukes. The Society pays the village a portion of all the fares (currently \$1.75 for adults) collected; this amounted to \$5,285 in 1973. Likewise the Society has renovated the electric system, which had been left intact, and occusionally provides assistance for the freight trains with one of the freight matters in the museum when the diesel is out of service. The Society has also rebuilt portions of the track with the labor of its members, billing the railway for the cost-but at much less than if done commercially.

Current Equipment and Track

The principal motive power as a 44 ton General Electric 300 horsepower diesel, built in June, 1942, purchased second hand in 1969. In 1973 an additional smaller diesel, 23 tons, was purchased for standby purposes; it is capable of little more than switching individual cars and is not currently

¹90/90 - 2 GE 733, # 15278

 being used. The line owns no freight cars and does not use a caboose.

Routine diesel maintenance is done by the operating crew and major work by

General Electric in Milwaukee.

The track is in minimally adequate condition for the purposes; and there has been very little difficulty with denailments. The sail is the original 75 pound rail installed by Milwaukee Electric in 1909, but is not badly bent. There were no tie plates in the original installation, but these are being added as track is reconstructed. The major problem is the swampy terrain through which much of the line passes. There are substantial embankments, but no major bridges. The work of the Historical Society has resulted in improvement of the poorest stretches of track.

The line has no maintenance employees, per se. The operating crew does some maintenance work; some is being done currently by the Historical Society; and occasionally work is contracted for with an outside firm.

Operation

The crew typically makes one trip to the junction daily, and occasionally two if there are more cars than the diesel can handle. Two to three loaded cars a day is a typical pattern. Speed is limited to 10 males per hour, but typically is 5 to 7 miles an hour. The Historical Society's passenger car can get up to speeds as high as 25 miles an hour on the better portions of the track. The freight train operates with a two-man crew—the road's entire labor force.

Not infrequently the line handles 100 ton hopper cars of fertilizer ingredients without difficulty--but of course at very low speeds.



The Tratific

of traffic are not available. The real mass not fall reports with the Interstate Commerce Commission as it is not a party to joans rates, and the reports filed with the Wisconsin Fuel coervice Commission co not contain this information. Corrently the traffic is 400 to 500 care a year, or about 30,000 ton miles per nite of line. This is approximately enough—given the length—to be included in the proposed reconstructed norther traffic action, if it we wint the relevant area and the sigure is well in excess of the 1.0-0.15 34 car filt.

The shippers include:

I. Trent Stainless Steel Tube Company, a subsidiary of Colt Industries. The firm manufactures a wide variety of steel tubing by a process known as Trentweld, the tubing runging from pencil size to large types used in the aircraft industry, nuclear power plants, and the lake. The firm located in East Troy in 1941 with a relatively small plant, without a rail siding, and shipped entirely by trock. In 1969 it undergook a major expansion, building a new \$2,500,000 plant, and at that time built a rail spor to both the new and old plant (ligner 6). The company deeded the spor to the village. With the enlarged scale of factory operations, rail service was deemed to be imperative. Currently, Trant is receiving or terminating about 50 curs a month. Steel and other materials for production rose in partly by rail-particularly the steel, which originates primarily in Pennsylvania--and a portion of the product goes out by rail. Some of the tubing is of such great length that it cannot be moved by highway; for other shipments, particularly over longer distances, rail movement is

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cheaper than truck, and some customers prefer rail snipments. For current operations, rail service is imperative.

- 2. Baker Laboratories. This firm, for many years the principal shipper on the line, produces a skim milk based baby food (Dr. Baker's Infant Formula), in both powder and liquid form. The tirm was formerly owned by Pfizer, but is now owned by a small group of eastern investors.

 For many years it received some of its inbound shipments by rail; these are all received now by truck, many coming from the surrounding area.

 Outbound shipments of the product go primarily by rail, to points throughout the United States.
- 3. Equity Co-op Feed and Fuel. This is the principal supplier of feed in the area; some feed comes in by rail (but mostly by truck, over relatively short distances). The firm's main elevator is not located on the rail line (though not more than a block away) but its fertilizer blending and feed plant was built on the rail line near the power substation, and receives feed and fertilizer ingredients by rail, much of it in 100 ton hopper cars.
- 4. East Troy Lumber Company, Located near the baker plant, has a rail siding, and receives some lumber and other supplies by rail.

In addition two larger larms in the area bring in livestock feed in bulk by rail.

Two important sources of traffic at the time the village took over the railway have disappeared. Petroleum products move by truck, and coal is no longer used to any extent. The important LCL merchandise traffic of course long ago vanished in the early days of trucking.



On the whole, the road has a reasonably balance flow of crurity inbound and outbound, unlike many maller railroads. It is biguly dependent for its traffic upon one firm, as is typical of many smaller lines.

The shippers appear to be well satisfied with the operation of the line.

Rates

As noted, the rallcoad is not a party to through rates (as are most small railroads). Shippers pay to the Soo the freight rate quoted in the tariffs to or from Mukwonago. The village railway is regarded essentially as a terminal and switching road. It receives from the Soo a flut amount for each car loaded and terminated—an average of \$25 per car. Since this produces an amount inadequate to cover costs, the shippers have agreed to an additional payment for which they are billed monthly by the village railway, currently \$16.50 inbound, \$17.50 outbound, per car. The shippers regard this as an acceptable payment, in light of the importance to them of the operation of the railway. No interline accounting is involved, except the flat amount per car pay ent by the Soo. The shippers have also made donations for the purchase of the diesel.

Relations with the Village

As with the City of Frineville, the railway is operated as an integral part of the village government. A separate railway fund is employed in the same fashion as the water fund and the airport fund. The water fund is in fact somewhat larger in annual expenditures than the railway fund. The railroad is supervised by the Railroad Committee of the City Council (made



up of members of the council). There is no railwal manager, as with the two larger roads; the chairman of 'he Railroad Committee of the Council, who has served in that capacity for some years, comes closest to being the manager, but he is not paid. The village clerk handles the accounts for the railroad, bills the shippers, pays the bills, and prepares the budget. Thus there is no sharp division between the railroad and the city administration, as there is with the other two lines.

Employees and Expenses

The railway has only two employees, the foreman and a helper, who do all the work—run the trains, maintain the diesel, do some track work, keep the record of the cars picked up and delivered. In 1973, they were paid a total of \$13,776 in wages. The other major expenses were \$11,673 for maintenance of way work other than that performed by the two employees, and \$10,622 for equipment maintenance. Both these figures are temporarily high as a result of catching up on deferred maintenance. The only tax payments are for the Federal railroad retirement system. Total expenses of railway operation, plus taxes, ere \$41.498.

The revenue comes from five sources:

- 1. The switching revenue received from the Soo \$10,698
- 2. The "extra tariff"—additional amounts, per car,
 paid to the village by the shippers
 2,237



3. Fares, from the Historical Society passenger operations 5,284

4. Miscellaneous, including demmarage (largely offset

by per diem payments), resale of electricity to the

Historical Society, etc.

9,068

5. Transfer or subsidy from the village

19,801

Railway Finances

A summary of finances from railway operation is as follows, for 1973:

Receipts \$20,924

Expenditures 41,498

Deficit 20,574

The \$20,000 deficit constitutes only about 6 percent of the total general fund expenditures of the village.

Typically in most years the village has been called upon to cover some deficit for the railway, as is shown for several years in Table XIII, together with revenue and expense data. Revenues fell stendily from 1957 to 1968 with loss of traffic to trucks and then rose as a result of the Trent traffic. Since the deficits are not great, and there is general acceptance of the importance to the community of retention of the line, there appears to be little opposition to continued covering of the deficit—but there is some feeling that the burden on the taxpayer is not negligible. The rail shippers are the largest taxpayers in the community—thus in a sense they are paying for the benefits received from retention of the line in the form



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of higher taxes. The individual taxpayers, as a whole, appear to be willing to aid in covering the deficit in view of the importance of the railroad to community development—but regard the support of the railroad as a necessary evil.

The data in Table XIII were obtained from reports filed with the Wisconsin Public Service Commission. The reports since 1969 show only receipts. The 1973 figures do not reconcile easily with those of the 1973 report of the railroad fund shown in Table XII because of differences in accounting.

Casual observation suggests that the village holds down the costs of operation of the railway very satisfactorily. The cost per ton mile is estimated to be about 16 cents—a figure that is not particularly high for a line of six miles in length, with the large terminal and switching activities. But on the other hand, it would appear that the amounts being received from the Soo are small compared to the rate division that the road would probably enjoy if it were a party to joint rates. Expansion of Trent has increased the traffic of the road; given the importance of the line to Trent, the largest industry, there appears—despite the lack of careful cost—benefit analysis—to be little question about the wisdom of continuing to operate the line at a deficit—but adequate payment from the Soo should reduce the deficit materially.



TABLE XI
POPULATION, VILLAGE OF EAST TROY
1930-1970

Year.	Population
1930	800
1940	925
1950	1,052
1960	1,455
1970	1,711

SOURCE: U. S. Census volumes.



TABLE XIII FINANCIAL STATISTICS, MUNICIPALITY OF EAST TROY RAILWAY, 1957-1973

1973		15,365			1,351									(19,800
1972		11,704													
1971		11,087													
1970		9,437													
6961		7,664													
1969	13,524	9,224	18,816	-9,592	1,481	C	,	2 0 6 7	\$0 K 6 K	1,408	275	11,300	1,602		550 5
1967	765.6	9,728	18,690	-8,962	1,449	-6,817 -10,411 -11,073		د د د	0,00%	2,216	588	11,208	1.0167		4,600 12,500 11,000 6,000 11,000 15,090
1966	9,008	9,065	14,604	-5,538	1,279	-6,817		7	200	7,439	531	10,584	7,484		0 0 0
1965	9,825	8,938	14,730	-5,792	4	726*9-		7	7227	(7) (7) (7) (4)	533	9,734	+ 723		000
1964	11,098	9,186	20,571	-11,385	1,03I	-4,277 -12,466		2,0	3,470	4,862	100 ES	10,185	12/04		12,500
1953	9,715	10,179	13,339	-3,160 -11,385	1,117	4,273		37.5	-i -i -i -i -i	768	631	9,936	1,663		000
1962	6,992	11,699	14,454	-2,755	2,113	-3,873		CZ V	000	1,505	989	0,920	2000		2,000
1961	11,865	12,608	13,372	-765	1,043	-1,809		0X 7~ 64	010	00 E3	660	9,931	1,651		Þ
1960	13,674	14,530	11,952	-422	1,052	7272		ان ان اب	20769		773	9,973	5.940		
1959	15,178	13,867	14,570	-703	1,197	-1,900		702 -	43061	1,002	672	10,051	00 mt U) mt		
1958	-17,048	15,204	18,148	-2,944	5	-3,535		2000	2000	206	667	5,513	2,402		5,000
1957	•	16,528	12,468	(J)											
	Investment (as reported)	Operating Revenue	Operating Expenses	Net Revenue from Railway Operations	Taxes	Operating Profit (and net loss)		Expenses Maintenance of May	nathrenance of say	Maintenance of Equipment	16400	Transportation	Ceneral	Advances from the	Municipality

1816,000 prior to 1958 Prom Report of Railroad Funds

SOWNER: Reports filled by the road with the Wisconsin Public Services Commussion



THE IMPLICATIONS OF THE MUNICIPAL EXPERIENCE

The experience with those three municipal tailroad operations is of substantial significance for policy relating to restructuring the organization of the northeast railroads, as well as those an other parts of the country.

The following conclusions are warranted from experience:

- 1. A manicipal government can without question operate a railroad effectively and efficiently. Under very different environments and circumstances, these three municipalities have operated railroads for long periods of time, through years of adversity as well as relative prosperity.
- 2. While direct comparison of efficiency of various railroads is difficult, given the great variety of conditions, comparisons of costs per ton mile and general observation of operating practices suggest that these three railroads operate at lower cost than is typical for railroads of comparable volume and length.
- 3. A municipal line is under strong pressure to hold costs down.

 Management seeks to make a cood impression on the city administration. The latter and the city council seek to minimize deficits or maximize profits in order to hold taxes down and provide maximum municipal services.
- 4. Shipper attitudes toward the efficiency of the three is highly favorable. Interviews with all shippers using the C ty of Prineville line several years ago revealed a magn degree of satisfaction with operation and service; the only dispute at that time, later resolved, related to milling in transit rates. The principal shipper on the East Troy line praised the cooperation and service of the rail line. While detailed interviews were not made with shippers on the Belfast line, the general impression was one of favorable attitude.

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- 5. Continued operation of all three lines over the years appears to have been clearly warranted. The Prineville line has justified itself on a strict private profit making basis. More significantly, it has enabled Prineville to develop as a major lumber and millwork center, which would have been impossible without a railroad. There are national gains as well as community ones, since Prineville was clearly a more efficient location for the mills than points on other rail lines in the area. The city has continued to grow; it is an attractive city with a strong municipal pride-all of which would have been impossible without the railway. While Belfast has not grown significantly over the years, the continuation of the railroad facilitated Belfast's becoming a major poultry raising area by allowing the bringing in of poultry feed at low cost. The railroad has made possible other activities in the area as well, particularly production of fertilizer from scrap leather. The railway in East Troy is essential for the village's largest industry, some of whose shipments must go by rail and others can go more economically by rail. And the almost accidental retention of the electric power system has allowed he establishment of the tourist railroad operations, which is of benefit to the area.
- 6. Significant changes have occurred in the traffic of the lines over the years. Prineville was initially almost solely a carrier of agricultural products; this traffic is now minor (though not negligible). The railway is not particularly important for agriculture but allowed the development of the lumber industry. The East Troy line, mainly taken over to allow shipments of coal, gasoline, and baby formula, is now primarily a carrier of steel and steel products with the location of the new industry. The



general merchandise traffic of the Boirast line vanished and the timber industry traffic declined, to be replaced by the heavy movements of poultry feed. These changes stress the importance of considering future developments as well as current circumstances in abandonment decisions.

- 7. The experience of the Prineville line demonstrates the ability of a municipal government to keep a railroad going during years of severe depression when a private, local firm would not have been able to do so.

 If the line had been abandoned in the depression years, the later development of the community would not have occurred.
- 8. The East Troy experience illustrates very well the ability of municipal operation to internalize the benefits to particular shippers and to the community so that subsidy, per se, from outside sources is not necessary. The shippers on the line agreed voluntarily to pay additional amounts to the railroad to lessen the deficit and keep the road in operation; and the voters of the city have clearly been willing for the remainder to be made up out of tax funds, in view of the recognition of the importance to the community of continued operation of the line. The experience was similar in Princeville during the depression years.
- 9. In general, the experience has shown that effective management can be generated for municipal systems, provided operations are large enough to allow paying of adequate salaries; the East Troy line is too small to employ a manager. The Belfast line has had in effect only three managers over it's lifetime (since 1926) as an independent road; and the Princville line had only two over a 44 year period.



On the other hand, the experience in Prineville since 1967 does show that management problems can be encountered; it may be difficult to find a person with necessary experience and familiarity with the line who also has the capacity to work with the rity council, on the one hand, and shippers and employees on the other. The need to keep the city government satisfied introduces a new variable not encountered with the typical privately-owned firm. The managers of the Belfast line and C. C. McGlenn's long career with the Prineville line show that the situation is not as unsolvable a one. But the difficulties in Prineville since 1967 suggest that the problem is not negligible.

The East Troy experience suggests that when a line is very small, the economic inability to hire a manager, leaving management in the hands of nonexperts in the city government, may lead to problems. There appears to be little question about the efficiency of day-to-day operation—but the absence of joint rates and failure to review the payments made by the Soo for originating and terminating cars suggest that the road could benefit from professional advice. This function could easily be provided for very small roads by the State Department of Transportation.

- 10. The history of the three lines suggests that there has been very little interference with operations of the lines by city council members seeking to advance their personal or political interests. Managers have not been chosen, for example, on the basis of political influence, so far as can be ascertained.
- 11. In the cases of both Prineville and Belfast, some differences of opinion have arisen over the relative interests of the large shippers and



the community as a whole on certain questions. These have not in fact been serious controversies—but they have arisen. The major issue in Prineville was over concessions on MIT rates, which the large shippers wanted, while railway management and the city administration were somewhat reluctant to give them. The issue in Belfast has been over shipper vs. city council representation on the railroad Board of Directors. In both cities there has at times been some feeling that the railway management, concentrating on day—to—day operation, has given too little attention to long range industrial development of the communities.

This problem is less serious than it might be because usually there is no obvious divergence between the interests of the shippers and of the community as a whole.

12. On the basis of a priori reasoning, it is difficulties had been encountered until 1974, when a strike by three shop employees threatened to shut down the entire lumber complex.

One danger in some communities, as the city administration sees it, is that unionization may spread from a city-owned radiroad to other city employees, particularly if wage and salary levels of the railway employees



jobs. There is some merit, if a city operates a railroad and uses a serit system, to set up classifications and salary schedules for railway and city employees on a uniform basis, and hope that by adequate salary levels, fringe benefits, tenure, and other features of civil service, the danger of serious discrepancies between railroad and city employee salaries will be avoided. But this may not prove to be possible.

parts of the municipal government offers one great advantage: the railways are free of Federal income tax and typically of all state and local taxes; the only tax liability is for Federal railroad employee retirement taxes. This has been a very great advantage to Prineville; of the \$3.5 million earnings that the railroad has made over the years, at least a third would have been paid in Federal income tax. The taxes paid by the Belfast line—it has not in fact paid Federal income taxes, given the deficits, carryover of losses, and accelerated depreciation rules—have meant the difference between profit and loss in a number of years. There appears to be little gain from the existence of a separate corporation, as with the Belfast and Moosehead Lake, since the city chooses the directors of the corporation; the argument that this arrangement lessens danger of political interference in the operation of the railroad is questionable.

In final summary: this experience confirms the merits of municipal operation of railroads as a viable alternative to abandonment, if circumstances relating to traffic volume, importance of rail service to the shippers, considerations of future community development and other aspects are such that the community regards continued operation of a rail line to be desirable:



- 1. Deficits can be met directly by the shippers and by the taxpayers of the community as a whole, shipper benefits (over and above the rates paid) and the community benefits being internalized.
- 2. Appropriate attention can be given to the importance of the railroad for future development of the community in a fashion that private
 enterprise cannot do. The traffic of all three of these railroads today is a
 product of economic developments in the areas that had not occurred when
 the railroads were built or taken over by the communities.
- 3. A municipal government can carry a railroad through depression years in a fashion that a private firm cannot.
- 4. A municipal line can give far more attention to the service needs of the community than can a branch line of a major system.
- 5. A municipal line can prove to be a source of revenue for the community.
- 6. Operation of a railroad by a municipal government frees the line from Federal income taxes, and, in most states, from state and local taxes. This constitutes a built-in subsidy to compensate for the national and regional benefits from continued operation of the railroad line.





